DOCUMENT RESUME

ED 107 681 95 TM 004 495

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TITLE The Effects of a Schools Without Failure Program Upon Classroom Interaction Patterns, Pupil Achievement and Teacher, Pupil and Parent Attitudes. (Report of First Year of Program).
INSTITUTION Pennsylvania State Dept. of Education, Harrisburg.
SPONS AGENCY National Center for Educational Research and Development (DHEW/OE), Washington, D.C.
BUREAU NO BR-2-C-070
PUB DATE Feb 74
GRANT OEG-3-72-0051
NOTE 161p.; For related documents, see TM 004 496-504

EDRS PRICE MF-$0.76 HC-$8.24 PLUS POSTAGE
DESCRIPTORS Academic Achievement; Academic Failure; Behavior Change; Classroom Observation Techniques; Comparative Analysis; Decision Making Skills; Discipline; Elementary Education; Elementary School Students; *Humanistic Education; Inservice Teacher Education; Intervention; Parent Attitudes; *Program Evaluation; *School Attitudes; *Student Attitudes; Student Teacher Relationship; *Teacher Attitudes; Teacher Education; Tests
IDENTIFIERS Glasser (William); New Castle Pennsylvania School District; *School Without Failure

ABSTRACT

An evaluation of William Glasser's Schools Without Failure (SWF) program was carried out during the program's first year of operation in the New Castle, Pa. School District. Ten elementary schools were paired on the basis of size, socioeconomic status, and pupils' past achievement. One school of each pair was randomly assigned to begin teacher training and implementation of SWF; the other school of each pair became a control school. Pre- and posttesting were used to assess pupil achievement and attitudes toward self, school, and others and teachers and parent attitudes toward educational issues. Instructional session and SWF school classroom meeting interactions were measured by the Expanded Category System and the Reciprocal Category System. Results indicated that the program had its major impact on teachers. Little difference existed in the achievement of pupils in SWF and control schools. Some positive changes in SWF school primary pupil attitudes toward being in school and toward doing difficult school work were found. Also, positive changes occurred in SWF school intermediate pupil attitudes toward the importance of doing assignments and importance of learning. In SWF schools the number of pupils referred to principals for disciplinary reasons was reduced. (Author/RC)

ED107681

Final Report

Project No. 2-C-070
Grant No. OEC-3-72-0051

THE EFFECTS OF A SCHOOLS WITHOUT FAILURE PROGRAM UPON CLASSROOM INTERACTION PATTERNS, PUPIL ACHIEVEMENT AND TEACHER, PUPIL AND PARENT ATTITUDES

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TM 004 495

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ABSTRACT

An evaluation of Dr. William Glasser's Schools Without Failure program was carried out during the program's first year of operation in New Castle, Pennsylvania, School District. Ten elementary schools were paired on the basis of size, socioeconomic status and past achievement of pupils. One school of each pair was randomly assigned to begin teacher training and implementation of the Schools Without Failure program; the other school of each pair became a control school, continuing to operate as it had in the past.

Pre- and posttestings of pupil achievement and of pupil attitudes toward self, toward school and toward others were employed. Teacher and parent attitudes toward educational issues were also measured on a pretest-posttest basis. Instructional session and SWF school classroom meeting interactions were measured through use of the Expanded Category System and the Reciprocal Category System during direct classroom observation periods.

The results of the study indicated that, during the first year, the program had its major impact upon teachers. Teachers in the SWF schools came to accept the SWF philosophy more and were found to be effectively using SWF methods. They began to use, in instructional sessions, some of the techniques they used in classroom meetings.

Little difference existed in the achievement of pupils in SWF schools and control schools. However, some positive changes were found in SWF school primary pupil attitudes toward being in school and toward doing difficult schoolwork. Some positive changes also occurred in SWF school intermediate pupil attitudes toward the importance of doing school assignments and the importance of learning. In SWF schools the number of pupils referred to principals for disciplinary reasons was greatly reduced over that occurring in previous years.

TABLE OF CONTENTS

PAGE

ABSTRACT iii

TABLE OF CONTENTS iv

LIST OF TABLES vi

CHAPTER

I INTRODUCTION 1

STATEMENT OF PROBLEM 1

RELATED STUDIES 2

OBJECTIVES OF THIS STUDY 4

II PROCEDURES 5

SAMPLE SELECTION 5

DESIGN OF THE STUDY 6

CONTROL GROUP TREATMENT 6

EXPERIMENTAL TREATMENT 7

Leadership Team Workshops 7
Training Seminars 8
Classroom Meetings 8
Discipline Practices 9

INSTRUMENTATION 10

Pupil Attitudes 10
Pupil Achievement 12
Teacher Attitudes 12
Parental Attitudes 13
Classroom Cbservations 13
Principal Referral Form 14

ANALYSIS OF DATA 14

III RESULTS 16

PUPIL ATTITUDES RESULTS 16

Results for Primary Classes 16
Results for Intermediate Classes 22

CHAPTER PAGE

PUPIL ACHIEVEMENT RESULTS. 28

Results for Grades 1 and 2 28
Results for Grades 3 to 6. 30

TEACHER ATTITUDES RESULTS. 36

Results for Primary Teachers 37
Results for Intermediate Teachers. 40

CLASSROOM INTERACTIONS RESULTS 43

Classroom Meeting Results. 43
Instructional Session Results. 48
Results for Primary Classrooms 49
Results for Intermediate Classrooms. 58

PUPIL DISCIPLINE RESULTS 66

Comparisons of Numbers of Pupils Referred. 66
Comparisons of Reasons for Referrals 67

PARENT ATTITUDES RESULTS 69

Results for Parents of Primary Pupils. 70
Results for Parents of Intermediate Pupils 72

CORRELATION RESULTS. 74

IV DISCUSSION AND CONCLUSIONS 84

BIBLIOGRAPHY. 86

APPENDICES. 90

LIST OF TABLES

TABLE		PAGE
1	1970-71 School Year Data on Paired Schools	5
2	Primary Pupil Means on Attitude Questionnaires	18
3	Primary Pupil Means on Attitude Toward School Factors	20
4	Percentages of Primary Pupils Giving Positive Responses to Items of the School Attitude Scale	22
5	Intermediate Pupil Means on Attitude Questionnaires	24
6	Intermediate Pupil Means on Factors of the Piers-Harris Children's Self-Concept Scale	25
7	Percentages of Intermediate Pupils Giving Positive Responses to Items of the Pennsylvania EQA Attitude Toward School Instrument	26
8	Percentages of Intermediate Pupils Giving Positive Responses to Items of the School Attitude Scale	27
9	Grade 1 Means on the Stanford Achievement Test	29
10	Grade 2 Means on the Stanford Achievement Test	29
11	Means on Arithmetic Subscales of Unexpectedly High Scoring Grade 6 Control School Classes and of Grade 6 Matched School Classes	30
12	Means of Pupils In Grades 3 to 6 on Verbal Subscales of the Stanford Achievement Test	32
13	Means of Pupils in Grades 3 to 6 on Arithmetic Subscales of the Stanford Achievement Test	33
14	Word Study Skills Means of Pupils in Grades 3 and 4	34
15	Science and Social Studies Means of Grade 3 Pupils	34
16	Science and Social Studies Means of Grade 6 Pupils	34
17	Primary Teacher Means on Attitude Questionnaires	38
18	Primary Teacher Means on Attitude Factors	39
19	Intermediate Teacher Means on Attitude Questionnaires	41
20	Intermediate Teacher Means on Attitude Factors	42

TABLE		PAGE
21	SWF School Percentages of Teacher Talk, Pupil Talk and Pupil-Pupil Talk	45
22	SWF School Percentages of Questioning, Lecturing and Giving Directions	45
23	SWF School Percentages of Types of Questions Asked	47
24	SWF School Percentages of Types of Teacher Responses to Pupils	47
25	Comparison of SWF School and Control School Classroom Interactions for Primary Grades	50
26	Primary Teacher Usage of Questioning, Lecturing and Giving Directions	51
27	Primary Teacher Usage of Types of Questions	52
28	Primary Teacher Usage of Types of Responses to Pupils	54
29	Primary Teacher Usage of Types of Praise	55
30	Primary Teacher Usage of Types of Criticism	55
31	Primary Teacher Usage of Motivation and Indirectness	56
32	Primary Pupil Usage of Types of Pupil Talk	56
33	Primary Pupil Usage of Classroom Climate Categories	57
34	Primary Pupil Talk, Teacher Talk, and Pupil-Pupil Talk	57
35	Comparison of SWF School and Control School Classroom Interactions for Intermediate Grades	59
36	Intermediate Teacher Usage of Questioning, Lecturing and Giving Directions	60
37	Intermediate Teacher Usage of Differing Types of Questions	61
38	Intermediate Teacher Usage of Types of Responses to Pupils	62
39	Intermediate Teacher Usage of Types of Praise	63
40	Intermediate Teacher Usage of Types of Criticism	63
41	Intermediate Teacher Usage of Motivation and Indirectness	64
42	Intermediate Pupil Usage of Types of Pupil Talk	64
43	Intermediate Pupil Usage of Classroom Climate Categories	65

TABLE		PAGE
44	Intermediate Pupil Talk, Teacher Talk, and Pupil-Pupil Talk. .	65
45	Percentage of Disciplinary Referrals For Each Type of Offense.	68
46	Means of Parents of Primary Pupils on the Glasser Philosophy Questionnaire.	71
47	Means of Parents of Intermediate Pupils on the Glasser Philosophy Questionnaire	73
48	Correlations Among Primary Variables	75
49	Correlations Among Intermediate Variables.	76
50	Correlations Among ECS and RCS Observation Categories.	77
51	Observation Categories Significantly Correlated with Primary Variables.	78
52	Observation Categories Significantly Correlated with Intermediate Teacher Attitudes.	80
53	Primary Fall to Spring Achievement Correlations.	81
54	Primary Fall to Spring Attitude Correlations	81
55	Intermediate Fall to Spring Correlations	82
56	Fall-Spring, Fall-Classroom Meeting (CM) and Classroom Meeting-Spring Correlations for Categories of the Flanders	83
57	Fall-Spring, Fall-Classroom Meeting (CM) and Classroom Meeting-Spring Correlations for Teacher Categories of the Reciprocal Category System.	83
58	Grade 1-3 Pupil Attitudes.	124
59	Grade 4-6 Pupil Attitudes.	126
60	Grade 1 Achievement.	131
61	Grade 2 Achievement.	132
62	Grade 3-6 Achievement--Verbal Subscales.	132
63	Grade 3-6 Achievement--Arithmetic Subscales.	134
64	Additional Grade 3-6 Analyses.	135
65	Grade 1-3 Teacher Attitudes.	136

TABLE PAGE

66 Grade 4-6 Teacher Attitudes. 138

67 Primary Classroom Interactions 141

68 Intermediate Classroom Interactions. 144

69 Attitudes of Parents of Primary Pupils 145

70 Attitudes of Parents of Intermediate Pupils. 146

71 Rotated Factor Solution for the "Faces" School Attitude Scale. 147

72 Rotated Factor Solution for the Glasser Philosophy Questionnaire Using Teacher Responses. 148

73 Rotated Factor Solution for the Glasser Philosophy Questionnaire Using Parent Responses 149

74 Rotated Factor Sclution for the Opinionnaire on Attitudes Toward Education*. 150

CHAPTER I

INTRODUCTION

I. STATEMENT OF PROBLEM

A long-observed social phenomenon is the relative inertia of the educational establishment. Stating ambitious new goals and testing experimental programs to achieve those goals is common and frequent educational and research procedure, but the incorporation of alternative programs into the mainstream of educational practice proceeds at a snail's pace. The new and better methods stop at the classroom door unless the teacher inside that door is committed to new goals, capable of understanding and applying a new process, and courageous enough to deviate from the relative safety of traditional practice.

At the turn of the century John Dewey was concerned with educating the whole child and was experimenting with methods to make education relevant to all the needs of the child. In the seven decades since, many commissions and committees on education have stated and restated three basic goals for American education:

(1) to provide the child with skills in thinking; that is, to teach ideas and problem solving strategies, not merely facts.

(2) to help the child to deal effectively with interpersonal relations in a variety of associations and organizations.

(3) to guide the child to achieve self-identity; that is, by filling the child's need for love and self-worth, to enable the child to become the best person he is capable of becoming.

In the 1918 report of the Commission on the Reorganization of Secondary Education, the mandate for education was restated--educate and train children intellectually, socially and emotionally. In 1968 the theme was repeated by the Committee on Economic Development. Educators were told again to concern themselves with teaching children to use information for making effective decisions and with helping the child adjust to his own emotional life space.

The term currently in vogue is "humanizing education;" it usually implies that within humanizing programs there are specific attempts to meet the intellectual, social and emotional needs of children. Although most humanization programs are in the developmental stage, some progress is being made. American educators are taking seriously the challenge made in Silberman's Crisis in the Classroom: "What tomorrow needs is not masses of intellectuals, but masses of educated men--men educated to feel and to act as well as to think" (Silberman, 1970, p. 7). Later Silberman reminds

us that "the false dichotomy between the 'cognitive' and the 'affective' domains can only cripple the development of thought and feeling" (Silberman, 1970, p. 8).

William Glasser has presented yet another philosophy of humanized education in his book, Schools Without Failure, but his is a philosophy with a difference. In addition to a philosophy, Glasser has outlined procedures, strategies and techniques for making this philosophy work in American classrooms. What he advocates is not radical; it is within the bounds of many types of school organization, and it can be personalized to each school and classroom. Because of nationwide interest in his program, Glasser has organized a training network through which a school staff can become trained to erase failure from their school through a program of humanized education. The Schools Without Failure program involves children in learning to use facts and ideas to make responsible decisions about their lives educationally, socially and emotionally.

The major purpose of the present investigation was to see how the attitudes and behaviors of pupils and teachers were changed by a Schools Without Failure program.

II. RELATED STUDIES

Very little research information is available concerning the effects of humanization programs upon pupils. The measurement problems involved in recording and analyzing data from teacher-pupil and pupil-pupil communications are great; and the recency of program development and scarcity of extensive program implementation have precluded definitive evaluation of program effects.

Simon reported a plan for humanizing learning which was developed at the Research for Better Schools laboratory. It is a unified approach to developing an integrated curriculum system with the learner as the primary target. Reports of the implementation research are due sometime in 1975. In the program plan, Simon also reviewed other experimental efforts and programs. The Research and Development Center at Johns Hopkins University is concentrating efforts on measurement of student attitudes and values; the Texas laboratory is working on measurement of pupil characteristics and teacher behaviors as they relate to individual thinking and learning. Many of the regional educational laboratories are working to improve the assessment of teacher-pupil interaction (Simon, 1969).

In 1912 Stevens reported that analysis of the verbal interaction in the classrooms of 20 teachers regarded as the best in their schools gave evidence that children were not being taught to be intellectually self-reliant or independent; at best, the pupils were trained in verbal memory and superficial judgment. As strategies for obtaining and analyzing information about the educational process have been refined during the ensuing 50 years, researchers still report the unmistakable dominance of rote memory verbal behaviors over higher levels of verbal interaction at both elementary and secondary levels (Brown, 1961; Aschner, 1963; Adams,

1967; Hughes, 1959; Smith, 1962, and Sharpe, 1969). The extent to which our instructional system depends on the process of memorizing and repeating facts is reported also by Soar (1966), Furst (1967), Barnes (1969) and Wragg (1969).

Using measurement instruments developed to show patterns and levels of interactions in classrooms, Flanders (1964) and others report that classroom interaction time used by teachers to accept pupils' feelings averages less than one per cent (Zahn, 1965; Simon, 1966; Pfeiffer, 1966; Amidon, 1967). Biddle and Adams (1967) also report that classrooms are practically devoid of affectional consideration; not even one per cent of class time was spent on matters that dealt with feelings and interpersonal relationships.

In one of the few studies of Glasser's Schools Without Failure (SWF) program, Keepes, Engle and Thorne (1971) attempted to measure the effects of an SWF program in the Palo Alto School District. In comparing data from two unmatched schools, the one conclusive finding was that the SWF program produced pupils who were more task oriented and more inclined to be involved in work-type activities than were pupils in the school not having the SWF program. These findings on task orientation are consistent with Glasser's predictions.

The major goals of in-service training, as stated by Philip W. Jackson, are "to help the teacher become progressively more sensitive to what is happening in his classroom and to support his efforts to improve on what he is doing" (Jackson, 1971, p. 28). Butterworth (1971) found evidence that elementary school teachers involved in SWF seminars showed attitude change toward more acceptance of Glasser's concepts. However, no appreciable differences were found between pupils of teachers enrolled in SWF seminars and those not enrolled. This finding raises the possibility that perhaps Butterworth did her investigation when the school district was in an intermediate stage of the program. Bush points out:

> Surely the ultimate objective is to improve the student's learning, but there are intermediate objectives at which in-service education can be aimed. The alteration of teacher behavior can be considered as a legitimate objective in and of itself. It is essential, in the final analysis, to link teacher behavior to changes in pupil behavior, but there are intermediate stages in which it is not necessary to apply this full link. (Bush, 1971, p. 65)

Robert (1971) investigated the role perceptions of teachers in large suburban elementary schools which implemented the SWF philosophy. He found that teachers who participated in SWF seminars were more oriented toward meeting personality needs of individuals and less threatened by innovation than were their nonparticipating counterparts. His study also showed that principals involved in SWF seminars were more accurate in assessing the role perceptions of the individual teachers with whom they worked.

At the 1973 AERA meeting, Jensen's report of the SWF program in Madison, Wisconsin was presented. By the third year of implementation, Jensen found behaviors such as truancy, vandalism, disruption and fighting were reduced, grade failures diminished, and teachers began to have dialogue with each other, with pupils and with parents. A measure of teacher attitudes showed that all teachers trained in the SWF seminars were favorably disposed toward the program; and among this total group elementary teachers had significantly more favorable attitudes than middle school or secondary teachers (Jensen, 1973).

This review has suggested that the Schools Without Failure program may contribute to improved pupil and teacher attitudes toward education. Improvement in teacher and pupil behaviors has also been reported by some districts following participation of their teachers in SWF in-service training and classroom application of the program components. Well planned experimental studies of the effects of SWF have not been reported, however, and without these no definite statements about the effects of this approach to humanizing education can be made. Before the SWF program can legitimately claim success in improving education, well-documented evidence of program effects must be made available. Without the rigors of research methodology, important questions concerning SWF cannot be answered.

III. OBJECTIVES OF THIS STUDY

The major objectives of this study of the effects of the Schools Without Failure program were to answer the following questions:

(1) How do the effects of the SWF program upon pupil attitudes toward self, others and school compare with the effects of a traditional elementary program?

(2) How do the effects of the SWF program upon pupil achievement in basic skills compare with the effects of a traditional elementary program?

(3) How do the effects of the SWF program upon teacher attitudes toward child-centered policies and practices in education and upon teacher job satisfaction compare with the effects of a traditional elementary program?

(4) How do the effects of the SWF program upon the social-emotional classroom climate and the cognitive interaction patterns compare with the effects of a traditional elementary program?

(5) How do the effects of the SWF program upon parental attitudes toward grading, discipline and pupil-centered instruction compare with the effects of a traditional elementary program?

CHAPTER II

PROCEDURES

I. SAMPLE SELECTION

The study was carried out in New Castle, Pennsylvania, a small city representative of many declining areas throughout the United States. The area has experienced considerable outmigration, and approximately 25 per cent of the school population is from economically disadvantaged homes, i.e., families with yearly incomes below $3,000.

Although the New Castle Area School District contains 11 elementary schools, only 10 were included in the study. These 10 schools were paired on the basis of size, socioeconomic status and achievement test scores from the previous year. From each pair, one school was randomly assigned to the experimental treatment group and the other school to the control group. The 11th school participated in the experimental treatment but was not included in the statistical analysis of results. Table 1 shows the 1970-71 school year data on which these schools were paired.

Table 1

1970-71 School Year Data on Paired Schools

	No. of Classes/No. of Pupils	Per Cent Enrollment From Low Income Families	Mean Stanford Achievement Test Battery Median Per Class						
			Grade						
			1	2	3	4	5	6	Total
School 1	19/498	1	3.23	4.07	4.57	5.13	6.40	7.03	5.07
School 2	16/389	1	2.77	3.73	4.35	5.53	5.77	7.03	4.86
School 3	8/177	4	2.25	3.50	4.10	4.50	5.30	6.20	4.31
School 4	15/374	2	2.87	3.25	4.37	5.47	6.10	7.65	4.95
School 5	12/330	22	2.25	3.15	3.55	4.10	5.50	6.45	4.17
School 6	12/275	13	2.10	3.33	3.60	4.80	5.30	6.00	4.19
School 7	19/448	40	2.00	2.85	3.73	4.47	4.83	5.80	3.95
School 8	19/423	39	1.86	2.20	3.50	4.10	4.77	6.00	3.74
School 9	11/195	77	1.75	2.40	2.80	4.05	5.50	5.35	3.64
School 10	16/335	60	1.80	2.87	3.03	3.60	4.60	5.70	3.60

The total sample consisted of 150 teachers and approximately 3,500 pupils in grades 1 to 6 of 10 New Castle schools.

II. DESIGN OF THE STUDY

Because the Glasser philosophy stresses a total school approach, random assignment of teachers to experimental or control treatment was not appropriate. The method used was random assignment of schools to treatments, all teachers in each school participating in the assigned treatment.

With only 10 schools available, the use of school means as the unit of analysis would have severely limited statistical analysis. Also, since classrooms varied in a number of dimensions, school means would have given less precise results than classroom means. Therefore, although the schools were randomly assigned to treatments, classroom means were used as the unit of analysis.

A Pretest-Posttest Control Group Design (Number 4, Campbell and Stanley, 1966, p. 8) was used in this study. For most analyses, control and experimental classes in grades 1 to 3 formed one 2 by 3 factorial design and classes in grades 4 to 6 formed a second 2 by 3 factorial. In a few instances, all grades were included in a single analysis, or some other grouping more applicable to the data was used.

All pupil measures were administered at the beginning of the 1972-73 school year as a pretest and at the end of the school year as a posttest. Observation data were collected three times: (1) pretreatment observation was done in October, (2) posttreatment observation was in May and (3) observation of classroom meetings in the experimental schools only was completed in April.

III. CONTROL GROUP TREATMENT

The control treatment was an attempt to continue as in previous years. In the primary grades this was a typical self-contained classroom approach. This meant that although content area and class length were recommended, each teacher's classroom practice was individual and unique. The only control was a professional request that control group teachers refrain from studying or implementing the Glasser philosophy during this first year of the study.

In grades 4 to 6 a departmental program approach had been initiated for all the city schools the year preceding this study. This was continued in all schools during the year of the study. Each class had a homeroom teacher who also taught some content areas, and they moved to the room(s) of one or more other teachers for different content areas.

No special in-service classes were held for control group teachers other than the customary few days just before and during the

school year. The content for these in-service days was determined by the school administration and included no information about Glasser's SWF program.

IV. EXPERIMENTAL TREATMENT

In-service training in Schools Without Failure methods and classroom implementation of these methods during the training period is the basis of the experimental treatment. The Schools Without Failure method is based on Glasser's principles of Reality Therapy applied to group situations in schools. As Glasser explains in The Identity Society (1972), the present school-age generation, in contrast to their goal-oriented parents and grandparents, is role-oriented. Unless they achieve a successful identity, they are unwilling to accept and work toward goals for education or life.

As Glasser explains:

> Pleasure or pain is the basis of most of our behavior.
>
> . . . . . .
>
> People with successful identities usually behave under stress in ways that cause pain to decrease and later enable them to experience pleasure. . . . [They] learn to cope with anger or its civilized derivatives, such as depression and anxiety, quickly and effectively by working to turn the situation toward involvement. . . . Failures, on the other hand, usually respond impulsively to anger, often decreasing both their security and their involvement (Glasser, 1972, pp. 55, 58, 59).

Involvement is the fundamental concept of Schools Without Failure. Without involvement, all other strategies cannot succeed. "Based upon successful involvement, the principles of Reality Therapy evolve into an approach to life that can help a person become successful." (Glasser, 1972, p. 107) Change is difficult because behaving in a way that supports the present self-image, however bad, is less painful than changing the self-image. If a child has been exposed to continued failure and has a self-image of himself as a failure, involvement with a successful person and a chance to see himself succeeding are necessary to help him gain a successful identity. Acceptance must precede motivation. "A good feeling toward oneself--a successful identity--motivates a child toward goals." (Glasser, 1972, p. 159)

Leadership Team Workshops

Leadership teams including the principal and staff-selected teachers from each experimental school formed a training cluster for the workshops. These workshops, conducted by an experienced associate of Dr. Glasser, were intensive two- or three-day training periods

separated by five-week intervals. Dr. Glasser's associate presented the theories of Reality Therapy and Schools Without Failure and the various implementation techniques to help the leadership teams plan seminars for their individual faculties.

The leadership workshops provided mutual support and encouragement, as well as information and ideas, by allowing time for discussion of problems which occurred in school seminars and classrooms. New techniques and new solutions to problems were tried in the five-week intervals between workshops, and results of these trials were presented to the training cluster, keeping the workshop always related to actual problems within the schools.

Training Seminars

The leadership teams conducted weekly seminars for the entire faculty in each experimental school. At these seminars the Schools Without Failure concepts were presented, ideas for implementation techniques were provided, and discussion of problems was encouraged. After trying the various suggestions in their classrooms, the teachers reported on their successes or problems of the previous week, accepted suggestions for alternate solutions from fellow teachers and received inspiration for continued effort.

The two important phases of Schools Without Failure implemented during the first year of the program were classroom meetings and the Reality Therapy approach to solving disciplinary problems. This implementation, however, led also to fulfillment of the following major objectives of the training seminars:

(1) to provide opportunities for principals and teachers to develop a positive, personal philosophy of education so they may develop their own school without failure.

(2) to provide ways for building constructive communication networks within the school and between the school and the community.

(3) to provide a process for developing classroom skills and procedures needed by teachers and principals to implement a success-oriented curriculum.

(4) to provide the background for building a school environment in which the staff and the pupils may deal realistically with their problems through the resources at hand.

Classroom Meetings

The Schools Without Failure program involved children in learning to make responsible decisions about their lives. The major technique

for accomplishing this was the holding of nonjudgmental classroom meetings wherein the teacher could become involved with the children and all children could experience success. These meetings, designed to meet the intellectual, social and emotional needs of each child, were held at least three times a week throughout the school year. As they learned to use them successfully, some teachers held one type of meeting or another every day. Other teachers occasionally allowed unscheduled events to interfere with meetings and held fewer than the required three per week. However, this was the basic route to involvement of pupil with teacher.

Open-ended meetings were the first type introduced, as these are the easiest for teachers learning the technique to lead. In open-ended meetings, children discussed thought-provoking questions related to their lives or to fantasy situations. The teachers did not look for a single correct answer to a question, but tried to stimulate thoughtful, creative opinions in which children could relate what they knew to the topic. Children of all elementary grade levels became deeply involved in and intellectually stimulated by such dialogue.

Educational-diagnostic meetings were introduced to the teachers later in the year, and were tried in the classroom. The educational-diagnostic meetings always related to something the class had been studying. Children talked about their understanding of a specific topic, its implications and applications to their lives. In addition to stimulating thinking, this type of meeting gave the teacher a quick evaluation of his or her success in presenting a concept to the class. Pupils were never graded or rated in any way on the basis of these meetings, but teachers did use information gained to plan further teaching strategies.

Social problem-solving meetings were introduced late in the year with caution. In these meetings children offered ideas on actual problems of the class. Teachers who felt comfortable with the class meeting method were able to try this type of meeting, but others were not ready to face the possible problems which could arise. Where these were used, the experience of belonging to a working, problem-solving group helped the children learn that they can use their brains to help solve the problems of living in a difficult, sometimes hostile and mysterious, world.

Successful operation of class meetings of any type was the major technique used during the first year of this study. This method allowed the teacher to become more involved with the pupils, and pupils became more involved with each other. A vital extra was the beginning of a better training in listening. Not only did pupils learn to listen to each other, but teachers began to listen to pupils.

Discipline Practices

The Schools Without Failure approach to discipline is based on logical or natural consequences expressing the reality of the social order, that is, rules which must be learned in order to function adequately. It

is concerned with what will happen in the present. Responsibility must be assumed by the individual, not by a teacher or principal who assumes the child's responsibility by applying punishment. The basic method involves a statement from the child of what he or she actually did which was unacceptable behavior, an evaluation by the child of the effect of this behavior on himself or herself and on others, and suggestions by the child for ways to improve subsequent behavior with a commitment to try the better approach. From the teacher or other adult, this method requires a friendly involvement and a willingness to accept any reasonable suggestion for improvement made by the child. It is a time-consuming teaching process, based on close, sustained involvement, which emphasizes teaching ways to act that will result in more successful behavior. (Glasser, 1972, pp. 107-132)

This method of handling discipline problems was introduced during seminars the second semester in the experimental schools. Teachers and principals introduced it into the schools with increasing success as they became more proficient with its use. Teachers asked children to evaluate their own behavior, to make plans for changing in ways that would lead to success, and to make commitments to carry through the plan with the encouragement and support of the involved teacher. Children who had not responded to punishment by improved behavior began to accept a new responsibility and to look intelligently at their own actions and the effects these actions had on others.

V. INSTRUMENTATION

Data gathering devices used in this study included pupil achievement tests and attitude scales, teacher and parent attitude measures, classroom observation schedules, and a recording form for discipline referrals to the school principals. The pupil measures were all administered in the fall of 1972 and in the spring of 1973. The parent and teacher scales were completed by most participants in the spring in both 1972 and 1973. Observation of regular classes in a random sample of both control and experimental groups was completed in October of 1972 and May of 1973, and classroom meetings in the experimental schools were observed in April 1973. Principal referral forms were used throughout the second semester of the 1971-72 school year and both semesters of the 1972-73 school year.

Pupil Attitudes

Attitudes Toward Self. To measure the effects of the SWF program on pupil self-attitudes, the Pictorial Self-Concept Scale (grades 1 to 3) and the Piers-Harris Children's Self-Concept Scale (grades 4 to 6) were used. Both scales were constructed according to Jersild's theoretical definition of self-concept (Jersild, 1952). In a study reported by Bolea, Felker and Barnes (1971), the correlation found between scores on these two scales was .42 for a sample of 63 elementary school children.

The Pictorial Self-Concept Scale developed by Bolea, Felker and Barnes (1971) consists of 50 picture cards with simplified line drawings. (See Appendix A.) A central figure, designated by a star and depicted in various situations, is a male on cards used with boys and a female on cards used with girls. The child sorts the cards into three piles indicating that the starred figure is "like me," "sometimes like me," or "not like me." The authors reported a split-half reliability of .85 when used by 1,813 pupils in grades K to 4. They also reported six studies providing validity evidence (Bolea, Felker and Barnes, 1971).

In the present study the split-half reliability was computed separately for each of grades 1, 2 and 3, for pretest and posttest, and for experimental and control groups. These coefficients ranged from .72 to .79, with a mean of .75 for all groups.

The Piers-Harris Children's Self-Concept Scale (Appendix A) consistently shows reliability coefficients of .90 or higher according to the test manual. Five studies supporting the validity of the scale are also included in the manual. Reliability coefficients computed in the present study for pretest and posttest in experimental and control classes for grades 4, 5 and 6 were comparable, ranging from .92 to .94 with a .93 average.

Attitudes Toward School. The 30-item School Attitude Scale was developed to measure children's attitudes toward school. A faces response form was used for primary pupils, and the same scale with a verbal response form was used for intermediate pupils. (See Appendix A.) Reliability for the faces form averaged .89 for grades 2 and 3 in pretest and for experimental and control groups in grades 1 to 3 for the posttest. Only the 18 items of the instrument which beginning first graders could be expected to understand were given to them for the pretest. The reliability for this short form was .85. (See Appendix A for this form also.)

The verbal response form of the School Attitude Scale showed a reliability of .91 for grades 4 to 6 on the pretest and averaged .92 for control and experimental classes in each of the three grades on the posttest. The Pennsylvania Educational Quality Assessment Attitude Toward School instrument was also administered in grades 4 to 6. With over 20,000 grade 5 pupils, this instrument had shown a reliability of .75, and the pretest of the present study also showed .75 for the total of all 4th, 5th and 6th graders. For separate experimental and control groups in each of grades 4 to 6, reliability coefficients ranged from .57 to .76, with an average of .66 when computed for these smaller groups on the posttest.

Attitudes Toward Others. To determine the effects of the SWF approach on pupils' attitudes toward classmates, peer rating forms were developed. Pupils in grades 1 to 3 were given a list of all class members, and were asked to color from one to five stars as a rating of the value of each classmate's ideas. The Acceptance of the Ideas of Others form used with grades 4 to 6 was similar, but asked these pupils to circle a number from 1 to 5 to rate classmates on who usually had the best ideas.

Pupils in grades 4 to 6 also completed an Acceptance of Others form which was identical in format but asked them to respond to a different question. For the Acceptance of Others scale, pupils were asked to rate classmates on the basis of how much fun it would be to do something with that person.

Pupil Achievement

The Stanford Achievement Test battery, 1964 edition, Form W, was administered to pupils in September 1972 and May 1973. Only the reading subtests were administered to grades 1 and 2, but the other grades took the language and arithmetic subtests. Split-half reliabilities for the various Stanford subtests at all levels are .71 or higher, with most showing a reliability greater than .85.

Teacher Attitudes

Three scales measuring various facets of teacher thought were completed by most teachers at the end of the 1971-72 school year. Teachers who were new or who for some reason had not done it then completed these in September 1972. Scales from the total group of teachers were scored as the pretest. All teachers completed the scales again in May 1973 as the posttest.

Opinionnaire on Attitudes Toward Education. Lindgren and Patton's "Opinionnaire" (Shaw and Wright, 1967, pp. 80-83) was used as a measure of attitudes toward child-centered education, discipline and the desirability of understanding pupils' behaviors. (See Appendix B.) The authors reported a split-half reliability of .82 for the scale and several studies supporting its validity. In this study coefficient alpha reliability was computed as .89 for the pretest and .84 for the posttest.

Satisfaction With Teaching Questionnaire. DiVesta and Merwin's "Attitude Toward Teaching as a Career" (Shaw and Wright, 1967, pp. 73-74) was used as a measure of satisfaction with teaching. In a study by its developers this scale discriminated between students choosing to teach and those choosing other careers. Because the scale was developed for preservice teachers, slight revisions were made in three items for use with New Castle teachers. The revised scale (Appendix B) showed a coefficient alpha reliability of .74 on the pretest and .69 on the posttest.

Philosophy of Glasser Questionnaire. A 15-item scale measuring attitudes toward the philosophy of William Glasser was constructed for use in this study. (See Appendix B.) This instrument had a coefficient alpha reliability of .77 when administered to New Castle School District teachers both in the spring of 1972 and the spring of 1973. Experts in Glasser's philosophy from the staff of Educator Training Center were consulted to insure content validity during the development of the instrument.

Parental Attitudes

Because the Schools Without Failure approach stresses parental and community involvement, the "Philosophy of Glasser Questionnaire" completed by the teachers was also sent to parents. The parents of pupils in all New Castle elementary schools received the scale in the fall of 1972 and again in the spring of 1973. The New Castle School District administration estimated that almost 90 per cent of parents responded. The reliability of parent responses was computed as .64 for the pretest and .70 for the posttest.

Classroom Observations

In addition to self-report scales and paper and pencil tests, observation of actual classroom verbal interaction was used to assess pupil and teacher behavior change. The Expanded Category System (Amidon, 1970) and the Reciprocal Category System (Ober, Wood and Roberts, 1968) were used by pairs of observers in about half of the classrooms at several times during the year.

In August 1972 eight experienced elementary teachers were selected and trained in one of the two observation systems. In each case the training was done by a developer of the system, i.e., Edmund Amidon for the Expanded Category System (ECS) and Richard Ober for the Reciprocal Category System (RCS). Review training was held in October and April, immediately preceding the observation periods, to allow the raters to gain actual classroom experience and to run reliability checks using training tapes. The October training tapes and practice observations were of regular classes and the April tapes and observations were of classroom meetings. (Appendix C shows the two observation schedules.)

A random sample of approximately half the teachers was selected for observation. The sample was stratified so that the number of teachers at each grade level was equal, and the content areas taught were the same for both experimental and control teachers. The teams of two raters observed two normal instructional periods per teacher in October, two in May, and, for the experimental teachers only, two classroom meetings in April.

Expanded Category System. In the ECS Amidon (1970) expanded the 10 categories of the Flanders System of Interaction Analysis (Flanders, 1970) so that such details as type of question asked by the teacher, type of praise given, or type of criticism used could be recorded. The raters trained in this system achieved interrater reliability as computed by Scott's method (Scott, 1955) of .85 by the end of the October training session. In April, when coding classroom meeting tapes, the Scott's coefficient obtained was .80.

Reciprocal Category System. Ober, Wood and Roberts developed the RCS to provide additional pupil categories, allowing the recording of pupil-pupil interactions as well as teacher-pupil interactions. The raters trained in this system achieved a Scott's coefficient of .79 on the training tape in October and .80 for a classroom meeting tape in April.

On all observations a team of two raters recorded both systems simultaneously. The 80 teachers were each observed two times in each observation period and the two were averaged, giving 40 mean observations for each cell in the analysis, comparing results for pre, post and class meeting sessions in experimental and control groups.

Principal Referral Form

An additional check on the behavior of pupils and staff was a recording of all occasions when pupils were sent to the office for disciplinary problems. Beginning in the second semester of the 1971-72 school year, the principals completed referral cards for each such event, including the child's name and information on what happened, when, who else was involved, and any action taken. Comparisons were made between the 1971-72 and the 1972-73 school years, and between the two spring semesters for experimental and control schools.

VI. ANALYSIS OF DATA

The major analyses performed were both multivariate and univariate analyses of covariance. Pretest scores were used as covariates of posttest scores in the analysis because the pretest, which is highly correlated to the posttest, is the best measure we have to correct for initial differences between groups. All tests were performed at the .05 level of significance.

The scores used for pupil measures in the analyses were class means, which gave a sample of 150 divided among six grades in control and experimental groups. For teacher scales, individual scores were used, giving a sample of 150 divided in the same way as pupil measures. Parent scores were grouped according to the classrooms of their children, and classroom means were used in the analysis.

The analyses performed were a means of determining whether changes occurring during the year in SWF school pupils and teachers differed from those occurring in control school pupils and teachers. If could have been assumed that no differences existed between the two groups at the beginning of the school year, comparisons using only spring scores would have given the desired results. However, since classes were not assigned randomly to either the SWF or control school program (whole schools were randomly assigned), this assumption could not be made. Therefore, analyses of covariance, in effect taking into account initial differences between the two groups when comparing them on their spring scores, were used. In the procedure, then, spring means, adjusted for fall differences between the groups, were compared.

The typical procedure followed in the analyses was first to perform a multivariate analysis of covariance as a means of examining over-all differences between the two groups in some area, such as pupil attitudes. Fall scores on all instruments used in the area served as

covariates of spring scores on these instruments. The result of each multivariate test was a statement such as: "Overall, SWF schools and control schools did (or did not) differ in changes occurring in pupil attitudes."

Univariate analyses of covariance using fall scores on one instrument as the covariate of spring scores on the instrument were then performed as a means of explaining the overall result. Thus, if, for example, the two groups were found to differ overall in changes in pupil attitudes, the univariate tests would determine which scores from attitude instruments were principally responsible for the overall difference.

CHAPTER III

RESULTS

I. PUPIL ATTITUDES RESULTS

Improving pupil attitudes is a major objective of the Schools Without Failure program. Dr. Glasser believes that in schools today the emphasis upon fact-memory learning, the lack of relevance of subject matter, the stress placed upon letter grades as a means of labelling "successes" and "failures" and the lack of involvement of pupils with each other and with their teachers all contribute to fostering poor attitudes toward school in many pupils. Also, he feels that, since many pupils are not made to feel good about their school accomplishments, schools are having harmful effects upon pupil attitudes toward themselves.

Thus, in investigating the effects of the SWF program upon pupils, instruments measuring attitudes toward self and toward school were employed in grades 1 to 6. In addition, since SWF school pupils were engaged almost daily in classroom meeting discussions, it was felt that changes might occur in their attitudes toward others and toward the ideas of others. Instruments measuring both variables were therefore used in grades 4 to 6. In grades 1 to 3 the attitude toward others instrument was not used because it was felt that the task required might prove psychologically damaging to young children (since pupil names would have to be read out loud before others could rate them).

In analyzing the results for these instruments, 2 by 3 factorial designs, comparing SWF school and control school classes at three grade levels, were used for both the primary grades and the intermediate grades. Source tables for these comparisons are contained in Appendix D.

Results for Primary Classes

A first step taken in analyzing the results for primary grade pupils was to determine whether, in general, fall to spring attitude changes of SWF school pupils differed from those of control school pupils. A multivariate analysis of covariance was used for this purpose, employing fall classroom means on all three instruments as covariates of spring classroom means on the instruments. Through the test, differences between the centroids of the two groups were determined, the centroid being the multivariate extension of the mean. Thus, in this case since adjusted scores on three instruments entered into the spring comparison, the centroid for each group can be pictured as a point in three dimensional space which is a function of the group's scores on all three instruments.

The F value obtained[1] in comparing adjusted spring attitude scores of SWF school and control school classes was 1.69, not significant with 3 and 61 degrees of freedom. The F value found in comparing attitudes of classes at the three grade levels ($F_{6,122}=5.14$) was significant, but the F value for the interaction between treatment (i.e., SWF and control) and grade level, 0.53, was not significant with 6 and 122 degrees of freedom.

Therefore, over-all, no difference was found between SWF schools and control schools in changes in primary pupil attitudes. The fact that the interaction value was not significant indicates that the same relationship between attitudes of the two groups was found for each grade level. The significant F value for the grade level test indicates that when all grade one scores (including both SWF school and control school scores) were compared with grade 2 and grade 3 scores, a difference among the scores for the three levels was found.

As would be expected from the results of the over-all test, no significant difference was found between SWF school and control school pupil attitudes on any of the three questionnaires. The F value ($F_{1,65}=3.28$) computed in the analysis of covariance comparing the two groups on the attitude toward the ideas of others instrument was the highest of the three. A value of 3.99 was required for significance at the .05 level, however. Table 2 shows the means obtained by the groups on the questionnaires. SWF school pupils' adjusted spring means (in effect, those means compared in the analyses of covariance) can be seen to have been higher than control school pupils' on all three questionnaires.

Although no difference was found between SWF school and control school pupils' scores on the attitude toward school instrument, an examination of responses to specific items revealed that SWF school pupils changed markedly in their responses to a number of items. The fact that these items appeared to be highly similar in content suggested that a factor analysis of the questionnaire might uncover factors on which SWF school pupils changed.

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[1]The computer program used, BMDX69, is contained in Dixon (1970). The F values are computed as a function of the U-statistic (Anderson, 1958). The program does not perform the homogeneity of dispersions test (H_1, as described in Cooley and Lohnes, 1971). However, since the test of centroid differences is robust under departures from its assumptions, the dispersions test was not performed. Also the focus of the study is upon differences in centroids and, since the number of groups and variables included in the factorial multivariate analyses of covariance used is relatively high, the extreme power of the test would in some cases have led to rejection of H_1 for rather insignificant differences among dispersions.

Table 2

Primary Pupil Means on Attitude Questionnaires

Grade	Group	No. of Classes	Attitude Toward School					Self-Concept					Attitudes Toward Others' Ideas				
			Fall '72		Spring '73			Fall '72		Spring '73			Fall '72		Spring '73		
			Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean
1	SWF	12	119.46	5.74	118.97	7.27	117.43	10.25	3.99	12.38	4.04	13.79	3.24	0.26	3.35	0.24	3.37
	Con	12	121.05	5.47	117.78	8.38	115.43	10.29	3.34	12.24	3.32	13.63	3.48	0.20	3.25	0.25	3.19
2	SWF	12	117.96	5.48	111.29	4.53	110.51	14.32	2.65	16.19	1.72	15.44	3.29	0.19	3.22	0.34	3.23
	Con	12	117.78	5.48	108.72	7.44	108.03	13.67	2.43	15.73	2.58	15.32	3.46	0.33	3.29	0.35	3.23
3	SWF	12	109.15	8.17	105.29	7.52	109.02	13.95	1.65	14.19	1.93	13.63	3.11	0.24	3.26	0.22	3.32
	Con	12	113.25	4.71	104.57	6.83	106.20	14.92	2.46	13.66	2.39	12.59	3.25	0.27	3.11	0.31	3.13

Therefore, a principal components factor analysis followed by a varimax rotation was performed using item responses of the 1,118 grade 2 and 3 pupils who were tested in the fall (grade 1 pupils responded to only 18 items of the questionnaire in the fall).[2] Only factors with eigenvalues greater than 1.00 were rotated, but following a suggestion to the Department of Education by William Cooley of the University of Pittsburgh, solutions involving differing numbers of rotated factors were examined. The solution was accepted for which each item most clearly "belonged to" only one factor (see Thurstone, 1947 for a discussion of simple structure) and for which the factors obtained made the most psychological sense.

The five-factor solution, accounting for 43.2 per cent of the variance occurring on the 30 items, was accepted as the best one for the "Faces" questionnaire. (Items included on each factor are shown in Appendix A; loadings of items on each factor are contained in Appendix I.) The five factors were: I, In-School Talking (5 items), i.e., attitude toward talking to teachers, the principal and classes in school; II, School Climate (6 items), i.e., attitude toward coming to school, being in school, school rules; III, Difficult Schoolwork (9 items), i.e., attitude toward doing schoolwork, toward arithmetic, toward taking tests; IV, Verbal Schoolwork (7 items), i.e., attitude toward reading, science, class discussion; and V, Evaluation (3 items), i.e., attitude toward being evaluated by the teacher.

Scores for each pupil were computed on each factor and classroom means were determined. The fall reliabilities of the five factors were, respectively, .61, .77, .79, .65 and .60; the spring reliabilities were .61, .77, .77, .67 and .61.

In the multivariate analysis of covariance comparing SWF school and control school classes on the five factors, the F value computed ($F_{5,57}=1.89$) was not significant. The F value ($F_{10,114}=2.51$) for the grade level comparison was significant, but the nonsignificant F value ($F_{10,114}=0.68$) for interaction indicated that the same relationship between SWF school and control school pupil attitudes existed for each grade level.

In the univariate tests performed to compare the groups on each factor, no significant difference was found. However, differences on two factors, Factor II, School Climate and Factor III, Difficult Schoolwork, approached significance at the .05 level. As can be seen in Table 3, adjusted spring attitude means of SWF school pupils were higher than were those of control school pupils on both factors.

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[2]The purpose of the factor analysis in this situation was to find subsets of items which pupils tended to answer in the same way and to regard these subsets as attitudinal areas contained within the questionnaire. Names were given to each subset (factor), and scores were obtained on these factors for each pupil. See Cooley and Lohnes (1971) for a much more technical explanation of factor analysis.

Table 3

Primary Pupil Means on Attitude Toward School Factors

Grade	Group	No. of Classes	F_1: In-School Talking					F_2: School Climate					F_3: Difficult Schoolwork				
			Fall '72		Spring '73			Fall '72		Spring '73			Fall '72		Spring '73		
			Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean
1	SWF	12	19.25	1.29	19.96	1.60	20.00	24.04	1.44	23.73	1.64	22.89	34.50	2.57	32.84	2.99	31.97
	Con	12	19.81	0.83	19.34	1.83	19.13	24.06	1.69	23.00	2.15	22.15	34.74	2.14	32.53	3.56	31.57
2	SWF	12	19.92	1.07	18.92	1.27	18.66	23.14	1.30	20.85	1.73	20.59	32.09	2.23	30.45	2.48	30.51
	Con	12	19.71	1.21	18.27	1.07	18.11	23.09	1.73	19.56	2.86	19.34	32.14	2.25	29.53	2.27	29.58
3	SWF	12	18.57	1.59	17.87	1.27	18.21	20.82	2.47	18.78	2.52	20.00	29.24	2.70	30.26	2.47	31.43
	Con	12	18.78	1.17	17.88	1.49	18.12	21.23	1.41	18.39	2.45	19.35	30.85	1.68	28.84	2.14	29.39

Grade	Group	No. of Classes	F_4: Verbal School work					F_5: Evaluation				
			Fall '72		Spring '73			Fall '72		Spring '73		
			Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean
1	SWF	12	28.63	1.37	29.91	1.60	30.13	12.60	0.79	12.53	1.21	12.53
	Con	12	28.52	1.38	30.04	1.58	29.96	13.14	0.48	12.91	0.78	12.84
2	SWF	12	29.80	1.35	29.04	0.89	28.87	13.01	0.46	12.03	0.96	11.97
	Con	12	30.08	0.96	29.41	1.77	29.15	12.76	0.52	11.93	0.86	11.91
3	SWF	12	28.77	1.52	27.40	2.29	27.58	11.79	0.81	10.98	1.27	11.10
	Con	12	29.99	1.18	28.22	1.13	28.00	12.40	0.93	11.24	0.83	11.27

Finally, Table 4 shows fall and spring percentages of SWF school and control school pupils who gave positive responses to each item of the "Faces" questionnaire. A positive response was either "a little happy" or "very happy" for all items but number 14; for this item a positive response was either "a little sad" or "very sad."

In comparing the two groups on the percentages contained in Table 4, it can be seen that a higher percentage of control school pupils gave positive responses to most items in the fall but that in the spring a higher percentage of SWF school pupils gave positive responses. Positive changes in SWF pupil attitudes were especially evident for certain items, among them numbers 7, 8, 12, 19, 21, 23 and 26. These items deal with attitudes toward the principal, toward doing difficult schoolwork, toward school rules and toward being in school. Pupil attitude changes on items such as these would be expected to occur in schools where the Schools Without Failure program is achieving its objectives.

Table 4

Percentages of Primary Pupils Giving Positive Responses to Items of the School Attitude Scale

		Fall 1972						Spring 1973					
		1		2		3		1		2		3	
Factor	Item	SWF	Con	SWF	Con	SWF	Con	SWF	Con	SWF	Con	SWF	Con
II	1	89	86	85	89	76	77	88	83	77	78	62	63
III	2	66	68	74	65	54	63	68	74	61	55	52	47
IV	3	82	80	83	89	79	84	88	83	82	83	69	84
III	4			63	68	51	54	60	59	49	55	44	38
I	5	77	78	83	79	75	76	78	75	75	68	64	69
IV	6	60	59	65	73	78	82	77	77	79	75	73	77
III	7			28	28	23	25	37	36	26	17	32	24
I	8	40	49	44	44	32	39	47	36	41	26	32	28
IV	9	68	74	77	78	67	74	75	77	73	73	52	61
V	10	73	84	83	79	58	69	71	79	65	61	49	55
II	11			72	76	61	65	71	71	57	49	45	40
III	12			52	47	41	42	58	50	45	35	37	31
IV	13			75	85	68	77	76	80	69	73	57	70
II	14			56	56	47	52	61	59	46	39	35	40
I	15	69	77	68	73	57	60	77	73	64	65	45	56
III	16			55	56	50	56	55	57	50	51	50	61
III	17	63	67	58	59	44	53	60	63	56	52	52	42
IV	18			79	82	75	83	81	80	80	79	66	70
III	19			42	43	25	31	49	41	30	26	30	16
V	20	84	85	80	81	71	78	84	83	77	78	69	70
II	21	61	70	69	66	52	60	70	62	64	62	49	50
IV	22			76	71	66	72	74	75	71	75	66	62
II	23	74	72	72	72	64	65	76	70	66	55	54	56
IV	24	85	80	88	92	84	88	87	83	80	82	77	77
I	25	74	81	78	78	72	67	75	78	71	72	65	68
II	26	62	65	44	51	30	35	47	53	34	24	31	18
III	27	72	70	70	74	53	66	74	73	66	58	63	66
V	28			75	77	62	68	75	78	65	67	48	55
III	29			64	61	46	59	61	66	61	59	56	48
I	30	70	79	75	76	63	67	75	72	71	63	56	56

Results for Intermediate Classes

In both the fall and the spring, pupils in grades 4 to 6 responded to five attitude instruments. Fall class means on the five instruments were used as covariates of spring means in a multivariate analysis of covariance. The F value obtained ($F_{5,51}=2.01$) comparing SWF and control school attitudes was not significant, nor was the F obtained ($F_{10,102}=1.30$) for the grade level test or the F obtained ($F_{10,102}=0.76$) for the interaction test.

In univariate analyses of covariance performed for each questionnaire, no F value obtained was significant. Thus, for the five questionnaires, changes occurring in SWF school intermediate pupil attitudes did not differ from those occurring in control school pupil attitudes. Means for the two groups are in Table 5.

The Piers-Harris Children's Self-Concept Scale is scored not only in terms of a total score but also in terms of the following six factors: I, Behavior; II, Intellectual and School Status; III, Physical Appearance and Attributes; IV, Anxiety; V, Popularity; and VI, Happiness and Satisfaction. (Items included on each factor are shown in Appendix A.) SWF school and control school classes also were compared on these factors. The fall reliabilities obtained for the six factors were, respectively: .79, .78, .76, .72, .71 and .69; the spring reliabilities were .81, .84, .80, .75, .80 and .74.

The multivariate analysis of covariance performed using scores on the six factors indicated ($F_{6,49}=1.21$) that no differences existed between SWF school and control school classes. However, both the F value for grade level ($F_{12,98}=2.00$) and for the interaction between treatment and grade level ($F_{12,98}=2.67$) were significant. The finding of a significant interaction meant that differences between SWF school and control school pupil attitudes varied as a function of pupil grade levels; for example, SWF school pupil attitudes could have been higher than attitudes of control school pupils at one grade level but lower at another.

In the univariate analyses of covariance performed for each factor, a major contributor to the significant multivariate interaction was Factor I, Behavior. As shown in Table 6, for grade 5 classes the adjusted spring mean of SWF school pupils was higher than that of control school classes. For grades 4 and 6, however, control school adjusted means were higher than SWF school means. The fact that, for areas of self concept, changes in SWF school and control school pupil attitudes varied by grade level, suggests that grade level may be an important determiner of certain of the effects of the SWF program.

Finally, Tables 7 and 8 contain fall and spring percentages of SWF school and control school pupils who gave positive responses to each item of the attitude toward school instruments. For the Pennsylvania EQA instrument a positive response to items 1 to 7 was "It's very important," "It's quite important," or "It's somewhat important." For items 8 to 17 a positive response was "almost always," "often," or "sometimes." For the School Attitude Scale a positive response to all items but number 14 was "Like it a lot" or "It's O.K." For item 14, a positive response was "Don't like it at all" or "Don't like it much."

As can be seen in Tables 7 and 8, attitudes of both SWF school and control school pupils became less positive from fall to spring. Both in the fall and in the spring a higher percentage of pupils in control schools than in SWF schools gave positive responses. The only apparent change was on items 1, 3, 4, 5, 6 and 7 of the EQA instrument. These items ask pupils about the importance to them of doing their schoolwork

Table 5

Intermediate Pupil Means on Attitude Questionnaires

Grade	Group	No. of Classes	EOA Attitude Toward School					School Attitude Scale					Piers-Harris Children's Self-Concept				
			Fall '72		Spring '73			Fall '72		Spring '73			Fall '72		Spring '73		
			Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean
4	SWF	11	63.94	3.18	54.67	7.03	53.89	107.96	5.52	95.99	6.62	93.42	54.76	4.56	52.85	5.62	53.44
	Con	11	62.31	2.93	51.37	3.62	51.31	107.45	6.23	99.59	6.22	97.42	54.63	4.09	53.63	5.07	54.34
5	SWF	11	60.25	2.95	51.83	4.03	52.71	98.92	7.01	91.66	9.82	96.00	53.99	5.80	53.99	6.05	55.29
	Con	11	62.41	2.09	51.79	3.88	51.70	107.11	3.44	96.76	7.53	94.85	54.61	5.92	54.33	5.47	55.05
6	SWF	11	61.39	2.48	53.04	4.49	53.40	102.27	5.16	93.31	8.36	95.09	57.18	3.30	56.62	3.30	54.98
	Con	11	62.88	3.16	53.12	4.82	52.81	103.89	4.56	97.75	7.14	98.29	57.21	3.59	58.75	4.33	57.07

Grade	Group	No. of Classes	Attitude Toward Others' Ideas					Attitude Toward Others				
			Fall '72		Spring '73			Fall '72		Spring '73		
			Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean
4	SWF	11	3.36	0.20	3.49	0.21	3.46	3.22	0.17	3.40	0.20	3.41
	Con	11	3.25	0.17	3.38	0.19	3.40	3.26	0.18	3.33	0.15	3.32
5	SWF	11	3.13	0.26	3.21	0.21	3.28	3.14	0.20	3.12	0.24	3.16
	Con	11	3.37	0.18	3.31	0.18	3.28	3.32	0.18	3.38	0.20	3.35
6	SWF	11	3.36	0.18	3.34	0.27	3.31	3.27	0.28	3.21	0.38	3.19
	Con	11	3.30	0.19	3.34	0.28	3.34	3.21	0.11	3.38	0.30	3.39

Table 6

Intermediate Pupil Means on Factors of the
Piers-Harris Children's Self-Concept Scale

Grade	Group	No. of Classes	Behavior					Intellectual & School Status					Physical Appearance & Attributes				
			Fall '72		Spring '73			Fall '72		Spring '73			Fall '72		Spring '73		
			Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean
4	SWF	11	13.34	1.14	12.71	1.28	13.03	11.92	1.01	11.41	1.50	11.24	7.21	0.70	7.03	1.08	6.98
	Con	11	13.25	1.20	13.17	1.29	13.56	11.83	1.19	11.66	1.10	11.57	7.20	0.78	7.08	0.99	7.04
5	SWF	11	13.66	1.52	13.53	1.49	13.59	11.32	1.47	11.32	1.59	11.67	6.94	1.02	7.06	0.89	7.19
	Con	11	13.42	1.75	12.78	1.63	13.04	11.52	1.12	11.65	1.12	11.82	6.96	0.86	7.30	0.86	7.42
6	SWF	11	14.50	0.87	13.72	0.98	13.10	11.65	0.93	11.89	0.75	11.95	7.12	0.99	7.54	0.91	7.55
	Con	11	14.25	0.96	14.76	1.13	14.34	12.08	1.08	12.58	1.21	12.28	7.36	1.11	8.05	1.01	7.89

Grade	Group	No. of Classes	Anxiety					Popularity					Happiness & Satisfaction				
			Fall '72		Spring '73			Fall '72		Spring '73			Fall '72		Spring '73		
			Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean
4	SWF	11	7.96	1.22	7.73	1.21	7.85	7.85	0.54	7.63	0.81	7.60	7.17	0.68	6.79	0.71	6.77
	Con	11	8.07	0.87	8.01	0.82	8.04	7.72	0.80	7.48	1.03	7.51	7.08	0.58	6.62	0.72	6.63
5	SWF	11	8.10	1.08	8.19	1.30	8.19	7.49	0.99	7.43	1.02	7.55	6.95	0.74	6.85	0.68	6.90
	Con	11	7.87	1.17	8.18	0.87	8.37	7.92	0.96	7.91	0.87	7.85	7.14	0.77	6.96	0.78	6.94
6	SWF	11	8.51	0.69	8.57	0.89	8.25	8.11	0.68	8.34	0.60	8.21	7.38	0.48	7.05	0.45	6.94
	Con	11	8.15	0.56	8.63	0.59	8.60	7.63	1.89	8.51	0.79	8.57	6.91	1.83	7.05	0.48	7.13

and of learning. In the fall the percentages of pupils giving positive responses to these items were highly similar in the two types of schools. In the spring, however, a higher percentage of 4th and 5th grade SWF school pupils than control school pupils gave positive responses to items 3, 4 and 5. In grade 4 these same results occurred for items 1, 6 and 7.

Thus, some positive changes did occur in SWF school intermediate pupil attitudes. As in the primary grades, these changes are ones which would be expected to occur as a result of the Schools Without Failure program.

Table 7

Percentages of Intermediate Pupils Giving Positive Responses to Items of the Pennsylvania EQA Attitude Toward School Instrument

	Fall 1972						Spring 1973					
	4		5		6		4		5		6	
Item	SWF	Con	SWF	Con	SWF	Con	SWF	Con	SWF	Con	SWF	Con
1	92	91	87	93	94	93	56	32	53	52	59	58
2	68	66	71	73	75	78	55	57	59	62	71	71
3	87	85	89	89	90	89	57	49	70	63	70	72
4	89	85	86	88	90	94	63	48	70	60	67	66
5	92	90	90	93	95	95	51	46	52	43	60	58
6	83	84	85	87	85	86	69	61	69	73	75	71
7	84	87	83	87	84	89	68	61	63	62	70	68
8	84	78	81	82	83	85	79	77	79	82	81	81
9	72	70	69	73	77	77	65	68	67	72	70	67
10	69	71	55	61	57	62	58	61	54	58	50	59
11	84	86	75	85	77	82	70	67	65	71	68	74
12	95	95	91	94	94	92	90	89	88	91	85	92
13	93	91	91	91	92	95	88	90	86	90	93	94
14	91	82	83	86	86	85	79	76	74	77	76	79
15	60	54	44	57	46	58	46	56	45	47	48	49
16	70	66	58	66	57	60	42	50	41	50	39	48
17	64	41	40	37	46	42	38	43	34	25	54	54

Table 8

Percentages of Intermediate Pupils Giving Positive Responses to Items of the School Attitude Scale

	Fall 1972						Spring 1973					
	4		5		6		4		5		6	
Item	SWF	Con	SWF	Con	SWF	Con	SWF	Con	SWF	Con	SWF	Con
1	80	80	69	79	71	76	53	60	52	68	62	67
2	67	71	56	71	66	70	55	57	50	51	50	54
3	80	72	71	77	70	77	71	75	60	68	64	64
4	62	57	49	53	52	50	45	45	40	52	42	42
5	79	76	66	76	67	70	66	78	62	66	58	64
6	64	60	51	63	63	66	61	46	53	56	59	59
7	54	61	45	53	56	50	45	49	49	49	47	48
8	47	46	31	46	35	36	35	38	31	39	33	32
9	78	73	62	71	57	61	59	60	45	51	38	49
10	66	60	58	66	57	60	48	54	52	60	56	60
11	66	67	48	67	59	66	38	45	37	46	39	47
12	52	60	41	50	42	48	35	48	27	42	30	39
13	75	78	62	73	62	68	64	62	54	62	57	60
14	48	44	29	38	32	29	27	32	24	32	24	24
15	61	58	47	62	54	51	63	50	45	53	57	49
16	69	74	68	75	76	70	59	64	61	64	65	63
17	59	59	54	63	54	59	50	52	49	54	49	53
18	86	83	76	83	82	84	71	71	77	72	71	69
19	39	42	26	29	25	28	21	28	16	25	16	17
20	65	66	58	65	65	62	57	62	54	63	52	70
21	66	65	48	65	46	54	46	50	34	50	38	47
22	78	70	67	67	67	73	65	70	62	66	59	70
23	71	66	57	68	58	66	46	53	44	57	52	59
24	68	79	59	70	62	65	52	72	52	53	50	53
25	65	63	50	57	59	61	47	54	44	56	55	58
26	23	23	11	21	11	13	09	15	09	15	07	10
27	70	77	71	73	76	71	64	68	67	64	67	66
28	56	59	50	64	59	66	50	47	49	54	56	66
29	45	47	33	49	44	44	41	45	34	44	42	42
30	69	71	61	63	65	68	56	61	53	67	56	66

II. PUPIL ACHIEVEMENT RESULTS

In schools where the SWF program is successful, pupil achievement would be expected to improve. Making the curriculum more relevant, training pupils to reason logically and improving pupil attitudes toward themselves and toward school would be expected to positively affect achievement. However, an improvement in pupil achievement would not be expected to be an immediate effect; rather, it would be expected to occur gradually as a result of the attainment of other program objectives.

The Stanford Achievement Test was used as a measure of the effects of the program upon pupils' basic skills. It was administered both in the fall 1972 and in the spring 1973 to all pupils in the ten project schools. Because of the fact that subscales used by the New Castle School District did vary somewhat for each grade level, the statistical analyses employed were in some cases one-way analyses of covariance and in others factorial analyses of covariance. Grade-equivalent scores were used in the analyses; only scores of pupils participating in both the fall and the spring testing entered into the means. Source tables for the analyses are contained in Appendix E.

Results for Grades 1 and 2

In grade 1 the Early School Achievement Test, Level I, was administered in the fall and four verbal subscales of the Primary I battery were administered in the spring. Adjusted spring means of SWF school and control school classes on each of the four subscales were compared in univariate analyses of covariance; the total score on the Early School Test was used as the covariate for each analysis.

In grade 2 three verbal subscales of the Primary I battery were administered in the fall and Primary II versions of the same three subscales were administered in the spring. In the three univariate analyses of covariance performed to compare scores of SWF school and control school classes, fall scores on a subscale served as the covariate of spring scores on the same subscale.

In both grade levels no significant differences were found between the adjusted spring means of SWF school and control school classes on subscales measuring Word Meaning, Paragraph Meaning and Word Study Skills. In addition, in grade 1 no significant difference was found on the Vocabulary subscale. Tables 9 and 10 show the means obtained by the two groups in the two grade levels.

Table 9

Grade 1 Means on the Stanford Achievement Test

Group	No. of Classes	Fall 1972 Early School Ach. Test Total		Spring 1973											
				Word Reading			Paragraph Meaning			Vocabulary			Word Study Skills		
		Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Adj. Mean	Mean	SD	Adj. Mean	Mean	SD	Adj. Mean
SWF	13	96.91	8.48	2.24	0.59	2.18	2.21	0.67	2.15	2.55	0.66	2.47	3.03	1.12	2.91
Con	14	94.63	8.84	2.27	0.41	2.32	2.20	0.42	2.26	2.61	0.77	2.69	2.97	0.95	3.09

Table 10

Grade 2 Means on the Stanford Achievement Test

Group	No. of Classes	Word Meaning					Paragraph Meaning					Word Study Skills				
		Fall '72		Spring '73			Fall '72		Spring '73			Fall '72		Spring '73		
		Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean
SWF	14	2.29	0.39	3.14	0.49	3.18	2.16	0.52	3.03	0.61	3.07	2.84	0.82	4.37	1.00	4.38
Con	12	2.37	0.42	3.23	0.42	3.18	2.23	0.45	3.04	0.54	3.00	2.88	0.88	4.36	1.41	4.34

Results for Grades 3 to 6

Both in the fall and in the spring the same six subscales of the Stanford Test were administered to all pupils in grades 3 to 6. Although it would have been desirable to include scores from all six subscales in the same multivariate analysis of covariance, a problem which made this impossible occurred on the two arithmetic subscales.

In examining spring scores on these two subscales (and on a third arithmetic subscale administered in only grades 4 to 6) two grade 6 control school classes scored higher than had any other grade 6 classes in the history of their school. In fact, although the typical achievement level of classes in this school was below that of most district elementary schools, spring scores of these two classes were higher than were those of any other district grade 6 class.

Because these unexpected scores would surely have influenced the project statistical analyses of results, pupils who had been in the two classes were retested in November 1973. As a means of comparison, pupils who had been 6th graders in the SWF school matched with the unexpectedly high scoring school were also retested.

As can be seen in Table 11 control school class scores were much lower in November than they had been in May. On the other hand, as would be expected, SWF school class scores increased from May to November. Therefore, since it was clear that some error had occurred in testing the two grade 6 control school classes, their arithmetic scores were dropped from the analyses. Also, in order not to lose the comparability of groups attained through the original school matching procedure, grade 6 scores from the matched SWF schools were also dropped.

Table 11

Means on Arithmetic Subscales of Unexpectedly High Scoring Grade 6 Control School Classes and of Grade 6 Matched School Classes

Type of Class	No. of Pupils	Arithmetic Computation		Arithmetic Concepts		Arithmetic Applications	
		May 1973 Mean	Nov. 1973 Mean	May 1973 Mean	Nov. 1973 Mean	May 1973 Mean	Nov. 1973 Mean
Control	16	8.07	6.44	7.88	6.96	8.19	7.41
Control	14	5.56	5.13	6.79	6.11	6.01	5.42
SWF	21	4.81	5.08	5.11	5.42	4.74	5.05
SWF	26	4.67	5.10	5.40	5.69	5.14	5.34

No testing problems were uncovered for the four verbal subscales administered to classes in grades 3 to 6. In the 2 by 4 multivariate analysis of covariance comparing scores of SWF school and control school classes, fall scores on the four subscales served as covariates of spring scores. The F value obtained in comparing the two groups was 1.76, not significant with 4 and 81 degrees of freedom. The F value obtained ($F_{12,214}$=1.38) in the test for the interaction between treatment and grade level was also not significant but, as would be expected, the F value ($F_{12,214}$=6.46) found in comparing scores of the four grade levels was significant.

In all four univariate analyses of covariance carried out to explain the multivariate result, SWF school adjusted means did not differ significantly from those of control schools. For the four subscales, Word Meaning, Paragraph Meaning, Spelling and Language, means of the two groups are contained in Table 12.

Univariate analyses of covariance were performed for each of the three arithmetic subscales. The factorial design for Arithmetic Concepts and Arithmetic Computation included classes in grades 3 to 6; the design for Arithmetic Applications included only classes in grades 4 to 6. As stated previously, scores for four grade 6 classes were dropped from these analyses.

In both the Arithmetic Concepts analysis and the Arithmetic Applications analysis SWF school classes and control school classes were not found to differ significantly in their adjusted spring means. However, on the Arithmetic Computation subscale, the F value for the test of interaction between treatment and grade level was 3.31, significant with 3 and 83 degrees of freedom. Thus, on this subscale the grade level of pupils was an important factor in determining differences between SWF schools and control schools.

As shown in Table 13 the adjusted Arithmetic Computation means of control school classes were higher than those of SWF school classes in grades 3, 5 and 6; in grade 4 the adjusted mean of SWF school classes was higher. However, in one-way analyses of covariance performed for each grade level, only in grade 5 did the two groups differ significantly.

In grades 3 and 4 an additional verbal subscale, Word Study Skills, was administered. In the univariate analyses of covariance comparing SWF school and control school classes in their adjusted means on this subscale, the computed F value of 5.00 was significant with 1 and 43 degrees of freedom. As shown in Table 14 in both grades the adjusted spring mean of SWF school classes was higher than was that of control school pupils.

Finally, in grades 3 and 6 Science and Social Studies subscales were administered. In grade 3 both areas were contained on the same subscale; in grade 6 the areas were in separate subscales. Science and Social Studies means are shown in Tables 15 and 16.

Table 12

Means of Pupils In Grades 3 to 6 on Verbal Subscales
of the Stanford Achievement Test

			Word Meaning					Paragraph Meaning					Spelling				
			Fall '72		Spring '73			Fall '72		Spring '73			Fall '72		Spring '73		
Grade	Group	No. of Classes	Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean
3	SWF	12	3.26	0.57	3.93	0.51	5.22	3.14	0.60	3.74	0.52	5.13	2.99	0.48	4.11	0.51	5.52
	Con	12	3.40	0.51	4.16	0.60	5.31	3.19	0.62	3.92	0.74	5.25	3.15	0.60	4.23	0.70	5.49
4	SWF	12	4.12	0.49	5.06	0.60	5.43	3.95	0.56	5.01	0.98	5.49	3.80	0.46	4.74	0.57	5.35
	Con		4.09	0.67	4.77	0.71	5.18	3.73	0.62	4.58	0.82	5.30	3.83	0.59	4.62	0.67	5.19
5	SWF	12	4.77	0.63	5.42	0.71	5.09	4.79	0.77	5.41	0.89	4.95	4.92	0.78	5.75	0.74	5.23
	Con	12	4.77	0.43	5.51	0.59	5.18	4.75	0.60	5.36	0.56	4.94	4.86	0.53	5.75	0.66	5.28
6	SWF	12	5.59	0.46	6.20	0.66	5.01	5.58	0.59	6.31	0.63	4.97	5.77	0.70	6.41	0.68	5.04
	Con	12	5.75	0.74	6.37	0.82	5.00	5.89	0.89	6.67	1.05	4.98	5.87	0.81	6.74	0.83	5.26

			Language				
			Fall '72		Spring '73		
Grade	Group	No. of Classes	Mean	SD	Mean	SD	Adj. Mean
3	SWF	12	2.90	0.43	3.76	0.62	5.18
	Con	12	2.90	0.43	3.94	0.89	5.36
4	SWF	12	3.39	0.49	4.51	0.88	5.33
	Con	12	3.38	0.69	4.47	1.11	5.30
5	SWF	12	4.48	1.00	5.17	1.05	4.68
	Con	12	4.52	0.60	5.25	0.75	4.71
6	SWF	12	5.36	0.74	5.85	0.86	4.31
	Con	12	5.67	0.93	6.46	0.97	4.54

Table 13

Means of Pupils in Grades 3 to 6 on Arithmetic Subscales of the Stanford Achievement Test

Grade	Group	No. of Classes	Arithmetic Concepts					Arithmetic Computation					Arithmetic Applications				
			Fall '72		Spring '73			Fall '72		Spring '73			Fall '72		Spring '73		
			Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean
3	SWF	12	3.03	0.54	4.20	0.49	5.89	2.76	0.26	3.72	0.36	4.92	--	--	--	--	--
	Con	12	2.97	0.49	4.12	0.74	5.88	2.77	0.33	4.09	0.69	5.29	--	--	--	--	--
4	SWF	12	4.06	0.45	5.12	0.81	5.62	3.43	0.19	4.72	0.45	5.14	3.94	0.47	4.80	0.77	5.84
	Con	12	3.84	0.70	4.88	1.07	5.64	3.45	0.40	4.56	0.66	4.96	3.75	0.42	4.52	0.77	5.79
5	SWF	12	5.22	0.49	5.57	0.63	4.70	4.16	0.27	4.75	0.45	4.33	4.73	0.76	5.31	1.09	5.39
	Con	12	5.23	0.34	5.89	0.32	5.03	4.21	0.28	5.25	0.48	4.77	4.71	0.47	5.55	0.60	5.66
6	SWF	10	5.90	0.32	6.40	0.46	4.76	4.98	0.47	6.09	0.62	4.72	5.92	0.43	6.70	0.64	5.33
	Con	10	6.14	0.40	6.83	0.47	4.90	5.00	0.22	6.34	0.28	4.94	6.13	0.74	7.17	0.74	5.54

Table 14

Word Study Skills Means of Pupils in Grades 3 and 4

Grade	Group	No. of Classes	Fall '72		Spring '73		
			Mean	SD	Mean	SD	Adj. Mean
3	SWF	12	4.14	1.10	4.91	0.99	4.94
	Con	12	4.36	1.17	4.97	1.33	4.78
4	SWF	12	4.16	0.67	5.38	0.72	5.38
	Con	12	3.99	0.96	4.89	1.05	5.06

Table 15

Science and Social Studies Means of Grade 3 Pupils

Group	No. of Classes	Fall '72		Spring '73		
		Mean	SD	Mean	SD	Adj. Mean
SWF	12	2.84	0.42	3.86	0.66	3.83
Con	12	2.78	0.39	3.79	0.80	3.83

Table 16

Science and Social Studies Means of Grade 6 Pupils

Group	No. of Classes	Science					Social Studies				
		Fall '72		Spring '73			Fall '72		Spring '73		
		Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean
SWF	12	5.51	0.58	6.49	0.78	6.59	5.19	0.50	5.82	0.71	5.77
Con	13	5.66	1.01	6.83	1.32	6.73	5.13	0.62	6.26	0.99	6.30

In both the grade 3 Science and Social Studies analysis of covariance and the grade 6 Science analysis of covariance, no significant difference was found between the adjusted spring means of SWF school and control school classes. However, in the analysis of covariance comparing grade 6 adjusted Social Studies means of SWF school and control school classes, the F value computed, 13.25, was significant with 1 and 22 degrees of freedom. As can be seen in Table 16, on this subscale the adjusted spring mean of control school pupils was higher than was that of SWF school pupils.

Thus, during the first year of operation of the Schools Without Failure program, few differences in pupil achievement gains were found between schools using the program and schools not using it. In grade 5 in Arithmetic Computation and in grade 6 in Social Studies, differences favoring control schools were found. In grades 3 and 4 in Word Study Skills, differences favoring SWF schools were found.

The differences found favoring control schools could have been a function of there being less time in SWF schools for review and drill-work. In these schools one-half day each week was used for teacher seminar sessions.

The difference found favoring SWF schools in Word Study Skills could have been a result of classroom meetings. The increased use of words in the meetings may have led to an increased ability to deal with them.

However, since few differences were found, it can be said that in its first year of operation the SWF program neither improved nor retarded pupil basic skills achievement.

III. TEACHER ATTITUDES RESULTS

It is assumed in the Schools Without Failure training program that, in order for the strongest positive changes to occur in pupils, some changes must occur in teachers' attitudes. Although it is recognized that teachers may not agree with all aspects of the SWF philosophy, successful operation of the program depends upon a general acceptance of it. Since Dr. Glasser disagrees with many traditional educational practices, it would be expected that most teachers adopting the program would have to change at least some of their attitudes.

In investigating changes in teacher attitudes, one questionnaire used, the Satisfaction with Teaching scale, contained 11 highly similar items. The other two questionnaires used, however, appeared to contain subsets of items which, if scored separately, would provide valuable information.

Since both the Opinionnaire on Attitudes Toward Education and the Glasser Philosophy questionnaire were administered in the spring of 1972 to all New Castle teachers, an adequate sample for factor analysis, approximately 400, was available. Principal components factor analysis of each questionnaire was performed in the same way as described for the primary School Attitude Scale.

The two factor solution was best for both questionnaires, accounting for 38.9 per cent of the variance in the 15 items of the Glasser questionnaire and 22.7 per cent of the variance in the 50 items of the Opinionnaire on Education. Appendix J contains, for each questionnaire, loadings of each item on each factor.

The two factors of the Glasser questionnaire were termed: I, Involvement (7 items), i.e., attitude toward the value to pupils of feeling accepted by their teachers and of being dealt with in school as individuals capable of responsible behavior; and II, Traditionalism (8 items), i.e., attitude toward traditional elementary school practices, such as giving report card grades, using punishment and memorizing facts.

For the Opinionnaire on Attitudes Toward Education, Factor I was termed Child-Centeredness (24 items), concerned with the value in a learning situation of helping children to understand themselves and of dealing with them as individuals. Factor II was termed Rigidity (26 items), dealing with the need for teachers to use the same authoritarian methods to control all pupils.

Scores were obtained on each factor for each teacher. Since the entire Glasser questionnaire was scored in terms of favorableness toward the SWF philosophy and the entire Opinionnaire on Education was scored in terms of favorableness toward child-centered policies and practices, a high score on Factor I of each questionnaire reflected agreement with the items of that factor. However, a high score on Factor II of the Glasser questionnaire reflected disagreement with the Traditionalism items and a high score on Factor II of the Opinionnaire

on Education reflected disagreement with the Rigidity items. For the Glasser questionnaire spring 1972 reliabilities of the two factors were .78 and .68, respectively; spring 1973 reliabilities were .73 for both factors. For the Opinionnaire on Education, spring 1972 reliability on each factor was .84 and spring 1973 reliabilities were .86 for Factor I and .91 for Factor II.

Results for Primary Teachers

In comparing attitude changes of SWF school and control school primary teachers, a multivariate analysis of covariance was performed. Spring 1972 total scores on the three questionnaires were used as covariates of spring 1973 total scores. The F value computed in comparing the two groups was 4.37, significant beyond the .025 level with 3 and 43 degrees of freedom. Neither the F value ($F_{6,86}=1.89$) for the test comparing teacher attitudes at each grade level nor the F value ($F_{6,85}=0.95$) for the test of interaction between group and grade level was significant.

A major reason for the difference uncovered in the overall test was that SWF school and control school teachers differed significantly in their adjusted means on the Glasser philosophy questionnaire. As shown in Table 17 by the end of the school year SWF school teachers teaching all three grade levels came to accept the Glasser philosophy more than did control school teachers.

Scores on the two factors of the Glasser Philosophy Questionnaire and on the two factors of the Opinionnaire on Education were also included in a multivariate analysis of covariance. As in the analysis for total questionnaire scores, the F value obtained ($F_{4,41}=4.70$) in comparing SWF school and control school teachers' attitudes on the factors was significant at beyond the .025 level. Neither the F value ($F_{8,82}=2.15$) for the grade level test nor the F value ($F_{8,82}=1.88$) for the test of interaction was significant.

Univariate analyses of covariance uncovered differences existing on two of the factors. These differences, on Factor II of each questionnaire, were major contributors to the difference found in the overall test. As Table 18 shows, adjusted 1973 means for SWF school teachers were higher than those of control school teachers on both the Rigidity factor and the Traditionalism factor. Thus, by the end of the school year, SWF school teachers felt less need for rigidity in dealing with pupils and also were less accepting of traditional educational practices than were control school teachers.

Table 17

Primary Teacher Means on Attitude Questionnaires

Grade Taught	Group	No. of Teachers	Opinionnaire on Attitudes Toward Education					Glasser Philosophy					Satisfaction with Teaching				
			Spring '72		Spring '73			Spring '72		Spring '73			Spring '72		Spring '73		
			Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean
1	SWF	12	187.33	13.43	179.83	13.44	180.91	58.33	4.66	57.92	9.21	58.19	40.42	6.08	44.67	5.97	45.75
	Con	14	196.07	17.94	188.50	18.88	183.39	61.00	7.52	57.57	8.52	55.60	44.64	4.68	43.50	5.29	42.04
2	SWF	13	184.23	16.02	188.77	16.44	192.05	58.85	6.76	59.69	6.37	59.54	40.69	4.44	43.31	4.44	44.22
	Con	11	189.27	32.19	186.55	26.55	186.25	54.55	8.23	54.64	10.13	58.10	42.55	6.19	43.82	4.26	43.62
3	SWF	12	182.92	15.67	187.83	17.24	192.04	59.08	7.03	60.17	8.38	59.81	41.00	6.82	42.83	7.65	43.56
	Con	09	193.78	22.02	184.89	12.45	181.40	59.67	6.00	54.33	6.78	53.47	44.22	3.07	45.00	2.55	43.79

Table 18

Primary Teacher Means on Attitude Factors

Grade Taught	Group	No. of Classes	Child-Centeredness					Rigidity					Involvement				
			Spring '72		Spring '73			Spring '72		Spring '73			Spring '72		Spring '73		
			Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean
1	SWF	12	92.33	8.49	85.42	7.42	85.91	95.00	8.42	94.42	10.01	95.01	30.83	3.04	30.17	4.09	30.86
	Con	14	97.79	8.23	92.64	8.21	89.55	98.29	12.31	95.86	14.00	93.94	33.14	2.28	32.43	2.44	31.47
2	SWF	13	90.15	5.90	92.31	6.93	94.23	94.08	10.66	96.46	11.40	97.76	32.08	2.53	33.15	1.99	32.96
	Con	11	93.55	15.04	91.45	14.10	91.15	95.73	18.40	95.09	14.52	95.13	29.82	4.79	30.64	4.59	32.05
3	SWF	12	91.00	7.62	90.92	10.56	92.29	91.92	9.46	96.92	8.97	99.86	31.67	2.35	32.50	2.54	32.60
	Con	09	93.22	12.96	90.89	6.85	90.80	100.56	10.55	94.00	7.71	90.35	33.22	1.99	32.00	2.60	30.99

Grade Taught	Group	No. of Classes	Traditionalism				
			Spring '72		Spring '73		
			Mean	SD	Mean	SD	Adj. Mean
1	SWF	12	27.50	3.75	27.75	6.74	27.26
	Con	14	27.86	5.61	25.14	6.67	24.38
2	SWF	13	26.77	4.76	26.54	4.94	26.61
	Con	11	24.73	4.78	24.00	6.18	25.63
3	SWF	12	27.42	5.60	27.67	6.62	27.24
	Con	09	26.44	4.95	22.33	5.34	22.65

Results for Intermediate Teachers

As in the analyses for primary teachers, a multivariate analysis of covariance was performed, comparing total questionnaire scores of SWF school and control school intermediate teachers. In this test both the F value ($F_{6,98}$=0.24) for the grade level test and the F value ($F_{6,98}$=0.74) for the test of interaction were nonsignificant. The F value computed in testing for a difference between SWF school and control school teachers' attitudes was, however, significant. The value obtained, 3.83, was significant at beyond the .025 level with 3 and 49 degrees of freedom.

In univariate analyses of covariance, differences occurring on all three questionnaires were found to have contributed to the overall difference. After adjusting for 1972 differences between the two groups, SWF school teachers' 1973 attitude scores were significantly higher on all three questionnaires than were control teachers'. Thus, not only did intermediate SWF school teachers become more accepting of the Glasser philosophy during the year, but also they became more satisfied with their jobs as teachers. Means for both groups are contained in Table 19.

In intermediate comparisons using scores on the two factors of the Glasser philosophy questionnaire and on the two factors of the Opinionnaire on Attitudes Toward Education, again differences between SWF school and control school teachers were uncovered. The F value obtained ($F_{4,47}$=3.37) in the multivariate analysis of covariance comparing the two groups on the four factors was significant at beyond the .025 level. Teachers teaching the three grade levels were not found to differ in their attitudes ($F_{8,94}$=0.66); the test of interaction between group and grade level was not found significant ($F_{8,94}$=0.85).

As in the analysis for primary teachers, differences on two factors contributed strongly to the overall difference between SWF school and control school intermediate teacher attitudes. However, whereas for primary teachers differences occurred on Factor II of each questionnaire, for intermediate teachers differences occurred on Factor I of each questionnaire. Thus, by the end of the year, SWF school teachers were more willing than were control school teachers to regard their pupils as capable of responsible behavior; also, SWF school teachers saw more value than did control school teachers in teachers helping pupils to understand themselves. Table 20 shows the means obtained by the groups on the four factors.

Table 19

Intermediate Teacher Means on Attitude Questionnaires

Grade Taught	Group	No. of Teachers	Opinionnaire on Attitudes Toward Education					Glasser Philosophy					Satisfaction with Teaching				
			Spring '72		Spring '73			Spring '72		Spring '73			Spring '72		Spring '73		
			Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean
4	SWF	10	179.90	14.66	187.90	14.24	191.27	56.20	5.77	59.60	5.56	60.98	41.80	3.77	44.10	4.33	44.24
	Con	10	188.30	15.68	183.90	12.00	182.64	60.00	8.18	58.60	7.95	57.42	42.50	5.70	41.60	4.99	41.32
5	SWF	10	187.10	20.79	190.40	13.95	189.80	60.00	6.04	62.30	7.27	61.12	44.80	5.27	45.70	3.53	44.06
	Con	10	189.10	8.36	180.80	10.78	179.10	59.40	3.84	56.80	7.02	56.02	40.70	4.99	39.60	3.24	40.39
6	SWF	10	182.40	10.34	182.80	9.25	184.80	56.40	6.45	58.50	4.20	59.75	41.30	6.65	41.20	6.23	41.64
	Con	10	189.30	9.38	184.10	14.39	182.29	57.50	7.31	57.70	7.94	58.21	41.10	6.76	41.00	6.65	41.55

Table 20

Intermediate Teacher Means on Attitude Factors

Grade Taught	Group	No. of Teachers	Child-Centeredness					Rigidity					Involvement				
			Spring '72		Spring '73			Spring '72		Spring '73			Spring '72		Spring '73		
			Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean
4	SWF	10	88.80	5.12	93.00	5.79	95.02	91.10	13.90	94.90	10.52	96.24	30.60	2.88	32.80	2.39	33.04
	Con	10	96.60	7.37	93.00	6.51	90.73	91.70	9.36	90.90	9.79	91.92	32.30	2.26	30.40	4.12	29.73
5	SWF	10	94.10	6.57	94.30	7.39	93.40	93.00	16.89	96.10	8.49	96.44	31.60	3.17	32.10	3.38	31.81
	Con	10	93.20	4.08	88.00	7.09	87.60	95.90	7.20	92.80	4.87	91.60	31.30	2.79	30.80	3.01	30.67
6	SWF	10	89.40	7.37	89.20	4.85	90.89	93.50	7.56	93.60	8.90	93.67	30.10	2.77	31.90	3.03	32.41
	Con	10	92.70	6.31	88.20	9.98	88.07	96.60	5.85	95.90	6.92	94.33	30.40	4.25	30.80	3.22	31.15

Grade Taught	Group	No. of Teachers	Traditionalism				
			Spring '72		Spring '73		
			Mean	SD	Mean	SD	Adj. Mean
4	SWF	10	25.60	4.20	26.80	4.49	27.63
	Con	10	28.10	7.13	28.20	4.83	27.64
5	SWF	10	28.40	4.38	30.20	5.71	29.48
	Con	10	28.10	3.41	26.00	4.64	25.44
6	SWF	10	25.30	5.25	26.60	1.84	27.60
	Con	10	27.10	4.75	26.90	7.31	26.90

IV. CLASSROOM INTERACTIONS RESULTS

The Schools Without Failure training program was expected to produce changes in teachers' classroom behaviors. To lead successful classroom meetings, teachers must use behaviors which would help to create a warm emotional climate in the classroom. Also, teachers must learn to use differing types of questions to facilitate pupil discussion. As SWF school teachers acquired and improved these skills during classroom meetings, it was expected that they would begin to use similar skills and behaviors during regular instructional sessions.

In determining whether any changes occurred in SWF school classroom interactions, one-half of both SWF school and control school teachers were observed twice in the fall and twice in the spring while engaged in normal instructional sessions. Also, SWF school teachers were observed twice while holding classroom meetings.

Both observation systems, the Expanded Category System (ECS) and the Reciprocal Category System (RCS), required observers to write down the category of behavior they saw occurring every three seconds. The data obtained were percentages of time each category was recorded during a twenty-minute observation period. The percentages from the two fall observations were averaged; similarly treated were those from the two spring observations and from the two classroom meetings. These average percentages of usage of each category were, then, the data used in analyses of fall, spring and classroom meeting interactions.

Classroom Meeting Results

During the first year of the SWF training program, teachers spend much time learning how to hold classroom meetings. In classroom meetings the teacher is a discussion facilitator, rather than a central figure. Although in most cases teachers use differing types of topics in meetings, for the most part open-ended questions, i.e., questions with no right answer, are used. In responding to pupils' answers the teacher is nonjudgmental, accepting answers without praise or criticism. In some cases pupils are challenged by the teacher to back up their answers with facts or with further reasoning. Pupils are encouraged to carry on meetings with as little teacher participation as possible; the skillful classroom meeting leader channels the meeting toward pupil-pupil interactions rather than pupil-teacher interactions.

It would be expected that interactions in spring classroom meetings would differ greatly from those occurring in fall 1972 SWF school instructional sessions. Also, although it would be expected that SWF school spring instructional session interactions would look more like classroom meetings than did fall sessions, spring instructional sessions should also differ from classroom meetings. If these expectations were not borne out through the project analyses, the logical conclusion would be that the SWF training program was an ineffective one and that the program in operation was not, in fact, much different from that taking place in the control schools.

In investigating differences among fall, classroom meeting and spring SWF school interactions, percentages of usage of categories of the ECS and RCS were examined. Also, since the ECS is an expanded version of the Flanders System (Flanders, 1970), percentages of specific categories included under each general Flanders category were summed to produce a percentage for the general category. For example, percentages of the four types of questions asked were summed to produce a total percentage of questioning, category 4 of the Flanders. Finally, in certain cases percentages for combined categories were summed to produce a value of interest. For example, percentages found for all the specific ECS categories included under categories 1 through 7 of the Flanders were summed to produce the total percentage of teacher talk.

Table 21 shows, for both primary and intermediate classrooms, percentages of pupil talk, teacher talk and pupil-pupil talk. In addition, the percentage of pupil talk which was pupil-pupil talk was computed.

As would be expected, in both fall and spring instructional sessions teachers talked much more than did pupils, but in classroom meetings pupils talked much more than did teachers. There was also more pupil-pupil talk in classroom meetings than in fall and spring instructional sessions.

Since teacher-initiated talk in classroom meetings would be expected to consist mainly of asking questions rather than of giving directions or of lecturing, comparisons were carried out for these three categories. As can be seen in Table 22, although the total percentage of time taken up by teachers in asking questions was highly similar in the fall, in classroom meetings and in the spring, in classroom meetings the percentage of teacher-initiated talk which was questioning was over 90 per cent in primary classrooms and over 84 per cent in intermediate classrooms. Thus, as expected, teachers holding classroom meetings were facilitators of discussion rather than dominant participants in it.

It was expected that the majority of questions asked by teachers in classroom meetings would be open-ended. In the ECS, categories 4d (divergent questioning) and 4e (evaluative questioning) are considered open-ended; categories 4f (fact-memory questioning) and 4c (convergent questioning) are considered not to be open-ended. Therefore, fall, spring and classroom meeting percentages of these four types of questions were compared.

As shown in Table 23, although in fall observations only about 10 per cent of questions asked in both primary and intermediate classrooms were open-ended, in classroom meetings about 75 per cent of the questions were open-ended. It is interesting to note, also, that although the type of questioning observed in classroom meetings did differ from that observed in the spring, an increase took place from fall to spring in the use of open-ended questions in instructional sessions.

Finally, since teachers should be nonjudgmental in classroom meetings, percentages of types of teacher responses to pupils were examined. It was expected that in classroom meetings much use would be made of ECS category 3 (acceptance of ideas). Lesser use would be made of ECS category 2 (praise) and of ECS category 7 (criticism).

Table 21

SWF School Percentages of Teacher Talk, Pupil Talk and Pupil-Pupil Talk

Grade Level	Observation Period	Teacher Talk ECS (1+2+3...+7)	Pupil Talk ECS (8+9)	Pupil-Pupil Talk*	Percentage of Pupil Talk Which Was Pupil-Pupil Talk**
Primary	Fall	54.4	36.9	2.4	6.6
	Class Meeting	35.7	59.7	5.3	8.8
	Spring	51.0	42.4	2.9	6.9
Intermediate	Fall	57.0	35.2	2.5	7.1
	Class Meeting	28.8	66.8	7.7	11.6
	Spring	52.0	40.7	2.0	4.9

*Percentage of RCS (11-19) directed at other pupils
**Percentage = Pupil-Pupil Talk/Pupil Talk

Table 22

SWF School Percentages of Questioning, Lecturing and Giving Directions

Grade Level	Observation Period	Percentage of Total Time			Percentage of Teacher-Initiated Talk Which Was:*		
		Questioning ECS (4)	Lecturing ECS (5)	Giving Directions ECS (6)	ECS (4)	ECS (5)	ECS (6)
Primary	Fall	22.1	9.9	6.5	57.5	25.7	16.9
	Class Meeting	25.9	1.8	0.6	90.8	7.0	2.3
	Spring	23.5	10.4	4.8	60.7	26.9	12.5
Intermediate	Fall	17.2	19.4	6.7	3[illegible].9	44.6	15.4
	Class Meeting	19.5	3.2	0.4	84.7	13.8	1.5
	Spring	18.8	16.8	5.3	46.1	41.0	12.9

*Percentages: 4 = 4/(4+5+6); 5 = 5/(4+5+6); 6 = 6/(4+5+6)

As shown in Table 24, although acceptance of ideas was used a great deal in both the fall and the spring, there was more use of this category in classroom meetings than in either fall or spring. In fact, over three-fourths of teachers' classroom meeting responses to pupils were recorded as acceptance of ideas. Praise and criticism were used sparingly in classroom meetings. Therefore, it can be said that, in general, teachers did behave in a nonjudgmental way in classroom meetings.

Thus, classroom meetings were found to differ from fall and spring instructional sessions. The ways in which they differed indicated that the SWF training program had been successful in conveying the classroom meeting concept to teachers.

Some changes occurred from fall to spring in SWF school teachers' instructional session behaviors. However, it is possible that these changes would also occur in classrooms of schools not using the SWF program. Therefore, changes in SWF school classrooms were compared with those occurring in control school classrooms.

Table 23

SWF School Percentages of Types of Questions Asked

Grade Level	Observation Period	Percentage of Total Time				Percentage of Total Questioning Which Was:*			
		Fact-Memory ECS (4f)	Convergent ECS (4c)	Divergent ECS (4d)	Evaluative ECS (4e)	ECS (4f)	ECS (4c)	ECS (4d)	ECS (4e)
Primary	Fall	12.6	6.9	1.7	0.9	57.1	31.2	7.7	4.1
	Class Meeting	2.7	3.6	14.0	3.6	11.2	15.2	58.6	15.0
	Spring	9.2	9.6	3.8	0.9	39.1	41.0	16.1	3.7
Intermediate	Fall	10.1	5.5	1.0	0.6	58.6	31.8	6.0	3.7
	Class Meeting	2.1	2.9	11.8	2.8	10.7	14.7	60.3	14.2
	Spring	8.8	7.6	1.8	0.6	46.6	40.2	9.7	3.4

*Percentages: 4f = 4f/(4f+4c+4d+4e); 4c = 4c/(4f+4c+4d+4e), etc.

Table 24

SWF School Percentages of Types of Teacher Responses to Pupils

Grade Level	Observation Period	Percentage of Total Time				Percentage of Teacher Response to Pupils Which Was:*			
		Acceptance of Feelings ECS (1)	Praise ECS (2)	Acceptance of Ideas ECS (3)	Criticism ECS (7)	ECS (1)	ECS (2)	ECS (3)	ECS (7)
Primary	Fall	0.1	3.1	8.9	3.9	0.7	19.2	55.8	24.3
	Class Meeting	0.1	0.7	6.4	1.2	0.8	8.2	76.5	14.5
	Spring	0.0	2.6	8.2	1.5	0.2	21.0	67.0	11.9
Intermediate	Fall	0.0	2.5	7.5	3.8	0.1	18.4	54.2	27.3
	Class Meeting	0.0	0.4	4.6	0.7	0.1	7.5	80.4	11.6
	Spring	0.1	2.6	6.6	1.7	0.6	23.9	60.0	15.4

*Percentages: 1 = 1/(1+2+3+7); 2 = 2/(1+2+3+7), etc.

Instructional Session Results

In comparing SWF school and control school classroom interactions, fall and spring observation data were used. These data, percentages of usage of each category in each classroom, could not be analyzed with normal curve statistics. Therefore, an angular transformation (Fisher and Yates, 1970, Table X) was performed, converting the percentages to new values and the shape of their distribution to one similar to a normal curve.[3]

Comparisons between SWF school and control school interactions were performed using these transformed data; univariate and multivariate analyses of covariance were employed. In both primary and intermediate comparisons, the same series of questions were asked and then answered through statistical analyses of data. Since a large number of analyses were performed and only a few significant differences were found, the discussion to follow will focus upon those few analyses where differences were found. Also, although tables of F values computed in performing multivariate and univariate analyses of covariance will be shown, not all source tables were reproduced. Included in Appendix G are source tables for univariate analyses performed after significant multivariate results were found and source tables for univariate analyses with significant results which were performed where no multivariate test was appropriate.

Below are the series of questions asked and the procedures used in answering each question:

Question 1: Did SWF school teachers change in their use of teacher-initiated talk, i.e., did they change in their use of questioning, lecturing and giving directions?

This question was answered through comparing SWF school and control school teacher usage of ECS categories 4 (questioning), 5 (lecturing) and 6 (giving directions). Also, as a means of determining whether differences existed in the types of questions asked, comparisons were performed on the extent of usage of ECS categories 4f (fact-memory questioning), 4c (convergent questioning), 4d (divergent questioning) and 4e (evaluative questioning).

Question 2: Did SWF school teachers change in the ways in which they responded to pupils, i.e., did they change in their use of praise, criticism, acceptance of ideas and acceptance of feelings?

In answering this question comparisons were performed on SWF school and control school teacher usage of ECS categories 1 (acceptance of feelings), 2 (praise), 3 (acceptance of ideas) and 7 (criticism).

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[3]This procedure was suggested by Dr. Harold E. Mitzel of The Pennsylvania State University, statistical consultant to the project. See Mitzel and Rabinowitz (1953) for a discussion of the procedure.

In addition, comparisons were carried out on the types of praise used, ECS categories 2W (praise with no criteria), 2P (praise with public criteria) and 2p (praise with private criteria), and on the types of criticism used, ECS categories 7w (criticism with no criteria), 7P (criticism with public criteria) and 7p (criticism with private criteria).

Question 3: Did SWF school teachers become more motivating and more indirect over the course of the year?

The answer to this question was found through use of ECS categories 1, 2, 3 and 4. Motivation and indirectness were defined as in the "i/d" ratio and the "I/D" ratio described by Amidon and Flanders (1963). Motivation was found through summing percentages obtained for categories 1 (acceptance of feelings), 2 (praise) and 3 (acceptance of ideas). Indirectness was arrived at through summing percentages obtained for categories 1, 2, 3 and 4 (questioning).

Question 4: Did SWF school pupils change in the ways in which they responded to their teachers and to other pupils?

This question was answered through comparing SWF school and control school pupil usage of ECS categories 8 (predictable pupil talk) and 9 (unpredictable pupil talk) and of RCS categories 11 (pupil "warms" the climate), 12 (pupil accepts), 13 (pupil amplifies the contributions of another), 18 (pupil corrects), and 19 (pupil "cools" the climate).

Question 5: Did the amounts of teacher talk, of pupil talk and of pupil-pupil talk change in SWF classrooms?

In answering this question comparisons were made using the sums of a number of categories. Teacher talk was obtained through summing ECS categories 1 through 7; pupil talk was obtained through summing ECS categories 8 and 9; pupil-pupil talk was obtained through summing those portions of the percentages of RCS categories 11 through 19 which were directed at other pupils.

Results for Primary Classrooms

As can be determined from Table 25, in answering question 1 for primary classrooms, no significant differences were found. However, as shown in Tables 26 and 27, SWF school teachers' adjusted spring means were higher than were those of control school teachers for category 4, questioning, and for all four types of questions recorded: fact-memory, convergent, divergent and evaluative. Thus, by spring, SWF school teachers had begun to use somewhat more questioning in their classrooms than did control school teachers.

In answering question 2, significant differences between SWF school and control school interactions were found in two multivariate analyses of covariance. Differences were found between the two groups in their use of acceptance of feelings, praise, acceptance of ideas and criticism. Also, differences were found in the types of praise used.

Table 25

Comparison of SWF School and Control School Classroom Interactions for Primary Grades

Question Answered	Categories Compared	Treatment (SWF vs. Con) df_1	df_2	F	Grade Level (1 vs. 2 vs. 3) df_1	df_2	F	Interaction (Treatment by Grade) df_1	df_2	F
1	Teacher-Initiated Talk ECS (4-5-6)	3	25	0.44	6	50	0.67	6	50	1.11
1	Types of Questions ECS (4f-4c-4d-4e)	4	23	1.52	8	46	0.84	8	46	0.71
2	Types of Responses to Pupils ECS (1-2-3-7)	4	23	2.93 ($p<.05$)	8	46	0.77	8	46	0.80
2	Types of Praise ECS (2w-2P-2p)	3	25	5.71 ($p<.005$)	6	50	2.10	6	50	1.23
2	Types of Criticism ECS (7w-7P-7p)	3	25	0.60	6	50	2.58	6	50	0.71
3	Motivation, ECS (1+2+3)	1	29	1.47	2	29	0.69	2	29	0.34
3	Indirectness ECS (1+2+3+4)	1	29	3.33	2	29	1.91	2	29	1.16
4	Predictable Pupil Talk ECS (8)	1	29	0.51	2	29	0.65	2	29	0.45
4	Unpredictable Pupil Talk ECS (9)	1	29	0.36	2	29	0.57	2	29	0.33
4	Pupil Amplifies, RCS (13)	1	29	0.06	2	29	0.29	2	29	0.24
4	Pupil Warms or Cools Climate RCS (11-12-18)	3	25	0.83	6	50	1.77	6	50	0.53
5	Teacher Talk ECS (1+2+3...+7)	1	29	1.18	2	29	2.67	2	29	5.21 ($p<.025$)
5	Pupil Talk, ECS (8+9)	1	29	0.02	2	29	1.29	2	29	3.36 ($p<.05$)
5	Pupil-Pupil Talk* RCS (11+12...+19)	1	29	1.47	2	29	1.34	2	29	0.49

*Only when directed at another pupil

Table 26

Primary Teacher Usage of Questioning, Lecturing and Giving Directions

Grade	Group	No. of Classes	Questioning--ECS (4)						Lecturing--ECS (5)						Giving Directions--ECS (6)					
			Fall '72		Spring '73				Fall '72		Spring '73				Fall '72		Spring '73			
			Mean	SD	Mean	SD	Adj. Mean	Adj. %*	Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %
1	SWF	6	28.82	3.93	28.27	5.62	27.13	20.80	18.10	3.60	19.81	6.70	21.15	13.02	12.44	3.49	13.18	6.17	13.59	5.52
	Con	6	27.24	4.09	23.47	6.51	23.38	15.75	26.10	9.29	22.66	8.60	19.71	11.38	13.19	8.20	12.69	8.32	12.75	4.87
2	SWF	6	28.46	5.21	27.72	6.12	26.82	20.36	17.24	4.00	17.97	4.46	19.77	11.44	14.78	5.73	10.74	5.35	10.04	3.04
	Con	6	25.24	5.45	26.70	7.17	27.94	21.96	20.15	4.50	24.07	6.86	24.31	16.95	11.75	2.24	13.30	4.10	14.04	5.88
3	SWF	6	26.27	3.63	30.24	2.18	30.79	26.20	18.05	6.93	16.72	5.61	18.08	9.63	15.20	4.31	11.68	2.69	10.78	3.50
	Con	6	26.57	2.92	24.50	6.91	24.85	17.66	23.95	3.17	20.61	7.24	18.82	10.41	12.50	4.49	13.79	5.91	14.17	5.99

*In this table and in all those to follow showing classroom interaction means, fall, spring and adjusted spring means were computed with transformed data. However, in each table in the column headed "Adj. %" the adjusted spring means were transformed back into percentages.

Table 27

Primary Teacher Usage of Types of Questions

Grade	Group	No. of Classes	Fact-Memory ECS (4f)						Convergent ECS (4c)						Divergent ECS (4d)					
			Fall '72		Spring '73				Fall '72		Spring '73				Fall '72		Spring '73			
			Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %
1	SWF	6	20.57	10.02	14.29	9.54	14.30	6.10	10.06	4.01	18.58	8.33	17.83	9.38	5.03	4.63	8.01	4.71	8.04	1.96
	Con	6	21.50	5.19	10.75	6.20	10.77	3.49	13.59	4.62	15.23	7.65	15.47	7.12	4.41	3.41	7.76	9.13	8.10	1.99
2	SWF	6	19.70	4.03	16.68	4.54	16.68	8.24	15.81	8.06	16.80	7.31	17.67	9.21	5.80	5.17	10.31	3.00	9.95	2.99
	Con	6	21.73	4.79	18.84	6.92	18.87	10.46	7.25	6.83	12.29	9.31	10.75	3.48	3.35	5.20	6.15	6.18	7.02	1.50
3	SWF	6	16.41	2.95	18.30	7.50	18.26	9.82	16.15	5.98	16.00	4.02	16.97	8.52	6.70	5.42	11.75	7.54	10.94	3.60
	Con	6	19.75	1.51	14.16	7.67	14.15	5.98	13.49	3.35	14.61	8.55	14.83	6.55	5.19	4.39	7.05	6.63	6.99	1.48

Grade	Group	No. of Classes	Evaluative ECS (4e)					
			Fall '72		Spring '73			
			Mean	SD	Mean	SD	Adj. Mean	Adj. %
1	SWF	6	3.34	3.97	3.72	4.60	3.78	0.44
	Con	6	2.35	3.03	2.38	1.94	2.57	0.20
2	SWF	6	3.49	4.54	3.68	3.19	3.73	0.42
	Con	6	3.83	3.94	3.51	5.52	3.51	0.38
3	SWF	6	5.42	2.76	2.63	5.59	2.42	0.18
	Con	6	4.69	5.18	2.20	2.01	2.45	0.19

In univariate analyses of covariance carried out to explain the first multivariate result, a significant difference was found between SWF school and control school teachers in their use of category 3, acceptance of ideas ($F_{1,29}=5.75$). Thus, by the end of the school year, as shown in Table 28, SWF school teachers used this category more than did control school teachers.

Univariate analyses of covariance, performed to explain the second significant multivariate result, uncovered two of the praise categories for which differences existed. Control school teachers teaching all three grade levels used more praise with public criteria than did SWF school teachers; although in 3rd grade SWF school teachers used more praise with private criteria than did control school teachers, for the other two grade levels control school teachers used more than did SWF school teachers. Means for these comparisons are contained in Table 29.

These results, then, along with the finding of less use of criticism in grades 1 and 2 by SWF school teachers (see Tables 28 and 30) indicate that over the course of the year SWF school teachers changed in their responses to pupils. Specifically, SWF school teachers became less judgmental in their responses, accepting ideas more and using praise and criticism less. Changes such as these would be expected to occur as a function of the SWF training program, since in learning to hold classroom meetings teachers are taught to be less judgmental in responding to pupils.

No significant differences were found in answering question 3. In effect, increased usage of acceptance of ideas and decreased usage of praise by SWF school teachers would tend to balance each other out and thus to cause no difference between SWF school and control school teachers in the computed values for motivation and indirectness.

In answering question 4, dealing with differences between SWF schools and control schools in categories used by pupils, no significant differences were found. In fact, as can be seen in Tables 32 and 33, differences between the two groups were of small magnitude and appeared to be mainly a function of grade level.

Finally, in answering question 5, two significant interactions existed. Differences between SWF schools and control schools in the amounts of pupil talk and teacher talk were found to vary as a function of grade level. As is evident in Table 34, SWF school teachers talked more than did control school teachers in grades 1 and 3; control school teachers talked more in grade 2. The opposite result was found for pupil talk; control school pupils talked more than did SWF school pupils in grades 1 and 3, and SWF school pupils talked more in grade 2. The reasons for these results are not clear, since it would be expected that the holding of classroom meetings would lead to more SWF school pupil talk than control school pupil talk in all three grade levels.

Table 28

Primary Teacher Usage of Types of Responses to Pupils

Grade	Group	No. of Classes	Acceptance of Feelings ECS (1)						Praise ECS (2)						Acceptance of Ideas ECS (3)					
			Fall '72		Spring '73				Fall '72		Spring '73				Fall '72		Spring '73			
			Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %
1	SWF	6	0.91	1.52	0.00	0.00	0.02	0.00	9.74	3.95	8.94	5.32	8.62	2.25	19.33	3.75	16.25	3.19	15.97	7.57
	Con	6	1.99	2.12	1.33	1.57	1.31	0.07	8.97	3.04	9.27	3.74	9.29	2.61	18.65	8.66	12.84	3.70	12.64	4.79
2	SWF	6	1.16	1.29	0.30	0.74	0.32	0.02	10.06	5.15	8.73	2.97	8.26	2.07	16.20	5.97	16.90	3.41	17.02	8.57
	Con	6	0.95	1.48	0.52	1.28	0.54	0.03	7.00	2.16	9.63	3.84	10.53	3.34	16.21	4.93	13.81	1.95	13.93	5.79
3	SWF	6	1.42	2.20	0.43	1.05	0.43	0.02	8.52	2.06	7.46	4.10	7.67	1.74	15.23	1.46	16.18	2.22	16.42	7.99
	Con	6	2.42	3.75	0.61	1.48	0.56	0.03	9.76	4.03	11.26	6.09	10.93	3.59	17.09	3.52	14.15	5.88	14.16	5.98

Grade	Group	No. of Classes	Criticism ECS (7)					
			Fall '72		Spring '73			
			Mean	SD	Mean	SD	Adj. Mean	Adj. %
1	SWF	6	9.82	2.72	5.95	1.91	6.60	1.33
	Con	6	11.01	3.88	7.37	4.21	7.43	1.67
2	SWF	6	8.86	2.94	5.28	2.47	6.39	1.24
	Con	6	13.02	4.15	9.57	2.91	8.63	2.25
3	SWF	6	13.37	5.29	8.19	3.53	7.08	1.52
	Con	6	10.62	4.50	6.65	3.24	6.89	1.44

Table 29

Primary Teacher Usage of Types of Praise

Grade	Group	No. of Classes	Praise With No Criteria ECS (2w)						Praise With Public Criteria ECS (2P)						Praise With Private Criteria ECS (2p)					
			Fall '72		Spring '73				Fall '72		Spring '73				Fall '72		Spring '73			
			Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %
1	SWF	6	9.00	3.55	8.94	5.32	8.94	2.42	2.82	2.88	0.00	0.00	0.00	0.00	0.60	0.93	0.00	0.00	0.00	0.00
	Con	6	8.83	3.08	8.85	3.62	8.85	2.37	0.73	1.15	1.03	1.16	1.06	0.06	0.30	0.74	1.65	1.99	1.66	0.09
2	SWF	6	9.88	5.30	8.63	3.07	8.63	2.25	0.43	1.05	0.30	0.74	0.34	0.02	0.43	1.05	0.30	0.74	0.31	0.02
	Con	6	6.51	2.15	9.37	4.01	9.37	2.65	2.80	3.43	1.03	1.16	1.01	0.06	0.00	0.00	0.73	1.15	0.76	0.04
3	SWF	6	7.20	2.29	7.09	4.00	7.09	1.53	2.65	3.07	1.33	1.57	1.32	0.07	1.23	2.03	1.03	1.16	1.00	0.06
	Con	6	8.93	3.45	10.82	6.16	10.82	3.53	2.34	3.63	2.68	1.12	2.67	1.22	1.03	1.16	0.30	0.74	0.28	0.02

Table 30

Primary Teacher Usage of Types of Criticism

Grade	Group	No. of Classes	Criticizes With No Criteria ECS (7w)						Criticizes With Public Criteria, ECS (7P)						Criticizes With Private Criteria, ECS (7p)					
			Fall '72		Spring '73				Fall '72		Spring '73				Fall '72		Spring '73			
			Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %
1	SWF	6	7.25	3.62	4.01	1.34	4.12	0.52	5.31	3.44	4.06	1.80	4.10	0.51	0.30	0.74	0.73	1.15	0.68	0.04
	Con	6	8.00	4.93	4.10	1.89	4.13	0.52	6.32	2.88	5.56	4.38	5.56	0.94	0.73	1.15	1.03	1.16	1.02	0.06
2	SWF	6	7.76	3.85	2.74	0.93	2.79	0.04	3.00	1.91	3.92	3.35	4.05	0.50	0.43	1.05	0.00	0.00	0.00	0.00
	Con	6	9.36	3.84	4.73	2.73	4.61	0.65	8.24	3.94	6.97	3.16	6.89	1.44	0.43	1.05	2.47	2.80	2.43	0.18
3	SWF	6	10.05	5.67	1.59	1.88	1.39	0.08	7.26	2.75	7.74	3.23	7.70	1.80	1.93	3.28	1.46	1.18	1.56	0.09
	Con	6	7.07	4.42	2.30	2.34	2.43	0.18	7.42	3.68	5.98	2.69	5.94	1.07	1.28	1.62	0.60	0.93	0.64	0.04

Table 31

Primary Teacher Usage of Motivation and Indirectness

Grade	Group	No. of Classes	Motivation, ECS (1+2+3)						Indirectness, ECS (1+2+3+4)					
			Fall '72		Spring '73				Fall '72		Spring '73			
			Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %
1	SWF	6	22.30	2.91	19.36	2.83	18.05	9.60	37.96	4.95	35.52	5.74	33.54	30.53
	Con	6	21.80	6.70	16.48	3.38	15.34	7.00	36.53	7.46	29.45	7.26	28.43	22.67
2	SWF	6	20.29	3.77	19.49	2.26	18.86	10.45	36.33	5.74	35.10	6.17	34.22	31.63
	Con	6	17.95	4.89	17.34	2.22	17.51	9.05	32.00	7.04	32.82	7.54	34.87	32.68
3	SWF	6	17.78	1.06	18.24	3.16	18.47	10.04	32.58	3.62	36.47	3.37	38.13	38.12
	Con	6	20.54	4.49	18.91	6.92	18.19	9.74	34.80	5.34	32.27	8.89	32.43	28.76

Table 32

Primary Pupil Usage of Types of Pupil Talk

Grade	Group	No. of Classes	Predictable Pupil Talk ECS (8)						Unpredictable Pupil Talk ECS (9)						Pupil Amplifies Contributions RCS (13)					
			Fall '72		Spring '73				Fall '72		Spring '73				Fall '72		Spring '73			
			Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %
1	SWF	6	32.35	2.56	29.38	2.92	29.34	24.01	13.32	7.70	22.12	9.60	21.95	13.98	5.02	8.26	1.85	2.90	2.06	0.13
	Con	6	26.92	5.36	30.76	11.08	30.13	25.20	10.60	3.60	20.06	14.17	20.59	12.37	3.91	5.46	2.25	4.68	2.23	0.16
2	SWF	6	33.33	4.80	34.78	6.68	34.85	32.65	12.15	7.83	20.16	3.87	20.29	12.02	3.94	3.70	3.21	4.94	3.19	0.31
	Con	6	36.73	6.33	29.88	6.06	30.32	25.49	10.99	7.48	13.05	10.70	13.48	5.43	4.23	3.49	2.32	5.69	2.37	0.17
3	SWF	6	33.94	8.13	30.22	5.35	30.36	25.54	15.22	5.39	21.81	11.77	21.15	13.02	2.73	4.11	2.93	2.73	2.68	0.22
	Con	6	32.79	5.46	29.30	4.08	29.32	23.98	13.67	3.57	22.32	16.70	22.06	14.10	4.18	4.78	4.42	5.91	4.46	0.51

Table 33

Primary Pupil Usage of Classroom Climate Categories*

Grade	Group	No. of Classes	Pupil Warms the Climate RCS (11)						Pupil Accepts RCS (12)						Pupil Corrects RCS (18)					
			Fall '72		Spring '73				Fall '72		Spring '73				Fall '72		Spring '73			
			Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %
1	SWF	6	0.30	0.74	0.61	1.48	0.63	0.03	0.74	1.81	1.78	2.47	1.82	0.10	1.28	2.15	1.76	1.48	1.89	0.98
	Con	6	0.30	0.74	1.65	1.99	1.68	0.09	0.60	0.93	5.67	9.89	5.67	0.98	1.77	1.67	3.95	5.60	3.98	0.48
2	SWF	6	0.43	1.05	0.68	1.65	0.67	0.04	1.04	1.82	1.76	1.87	1.90	0.11	1.83	1.59	3.89	2.50	3.90	0.46
	Con	6	1.10	1.77	0.30	0.74	0.11	0.01	0.30	0.74	1.16	2.08	1.06	0.06	1.21	2.97	3.50	3.33	3.64	0.40
3	SWF	6	0.30	0.74	0.73	1.15	0.76	0.04	0.30	0.74	0.30	0.74	0.21	0.01	3.34	1.74	3.00	1.91	2.70	0.22
	Con	6	0.00	0.00	1.69	3.33	1.80	0.10	0.61	1.48	2.48	2.67	2.48	0.19	2.02	2.23	3.40	4.24	3.38	0.35

*Category 19 was excluded from these comparisons because it was used in only one classroom.

Table 34

Primary Pupil Talk, Teacher Talk, and Pupil-Pupil Talk

Grade	Group	No. of Classes	Pupil Talk ECS (8+9)						Teacher Talk ECS (1+2+3...+7)						Pupil-Pupil Talk RCS (11+12+13...+19)*					
			Fall '72		Spring '73				Fall '72		Spring '73				Fall '72		Spring '73			
			Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %
1	SWF	6	36.40	4.11	39.17	6.97	39.09	39.76	48.42	3.81	47.08	6.95	47.51	54.38	8.31	4.78	10.25	3.12	10.13	3.09
	Con	6	29.57	4.41	40.61	9.67	45.17	50.30	55.13	4.66	44.12	10.68	37.87	37.68	6.82	1.51	10.96	6.46	11.63	4.06
2	SWF	6	36.80	6.32	42.14	4.66	41.78	44.40	47.54	6.18	44.09	5.70	45.40	50.70	8.22	2.77	10.94	3.47	10.87	3.56
	Con	6	39.77	4.74	34.69	6.80	32.32	38.45	45.37	5.43	48.43	3.13	51.91	61.95	9.64	3.95	8.51	3.77	7.68	1.79
3	SWF	6	38.70	6.47	40.27	7.86	38.62	38.95	46.71	6.13	45.54	6.17	47.68	54.67	8.70	2.16	8.22	2.90	7.89	1.89
	Con	6	36.42	5.96	41.02	10.23	40.92	42.90	49.96	5.66	45.40	11.15	44.30	48.78	6.80	2.71	11.13	6.17	11.82	4.19

*Only when directed at another pupil.

Results for Intermediate Classrooms

In answering questions 1 through 4 for intermediate classrooms, no significant differences between SWF school interactions and control school interactions were found (see Table 35). In general, however, there was a tendency, as shown in Table 37, for SWF school teachers to use more convergent, divergent and evaluative questioning than did control school teachers. SWF school teachers also used less praise and criticism than did control school teachers (see Tables 38, 39 and 40). But, as was not the case in primary classrooms, SWF school teachers teaching grades 4 and 5 also used somewhat less acceptance of ideas than did control school teachers.

The only significant difference between SWF school and control school interactions occurred for pupil talk, the sum of predictable and unpredictable talk. As shown in Table 44, SWF school pupils' adjusted spring means were higher than were those of control school pupils. This difference was the result of a greater increase over the year in SWF school pupil talk than in control school pupil talk. As can be seen in Table 42, greater differences existed between the two groups in the amount of unpredictable pupil talk than in the amount of predictable pupil talk.

The finding of more SWF school than control school pupil talk is an expected outcome of the SWF program. It would be expected that, for SWF school pupils, greater facility in expressing thoughts and less reluctance to do so would result from their almost daily participation in classroom meetings.

Table 35

Comparison of SWF School and Control School Classroom Interactions for Intermediate Grades

Question Answered	Categories Compared	Treatment (SWF vs. Con)			Grade (4 vs. 5 vs. 6)			Interaction (Treatment by Grade)		
		df_1	df_2	F	df_1	df_2	F	df_1	df_2	F
1	Teacher-Initiated Talk ECS (4-5-6)	3	25	1.78	6	50	0.80	6	50	0.46
1	Types of Questions ECS (4f-4c-4d-4e)	4	23	0.26	8	46	2.32	8	46	0.70
2	Types of Responses to Pupils ECS (1-2-3-7)	4	23	0.56	8	46	0.85	8	46	1.00
2	Types of Praise ECS (2w-2P-2p)	3	25	0.51	6	50	0.41	6	50	0.12
2	Types of Criticism ECS (7w-7P-7p)	3	25	1.21	6	50	1.90	6	50	0.20
3	Motivation ECS (1+2+3)	1	29	0.28	2	29	0.11	2	29	0.57
3	Indirectness ECS (1+2+3+4)	1	29	0.09	2	29	0.73	2	29	0.78
4	Predictable Pupil Talk ECS (8)	1	29	0.60	2	29	0.06	2	29	0.09
4	Unpredictable Pupil Talk ECS (9)	1	29	2.03	2	29	0.43	2	29	0.21
4	Pupil Amplifies RCS (13)	1	29	0.11	2	29	0.01	2	29	0.13
4	Pupil Warms or Cools Climate RCS (11-12-18-19)	4	23	0.71	8	46	0.49	8	46	0.27
5	Teacher Talk ECS (1+2+3...+7)	1	29	2.70	2	29	0.11	2	29	0.57
5	Pupil Talk ECS (8+9)	1	29	4.69 (p .05)	2	29	0.14	2	29	0.13
5	Pupil-Pupil Talk RCS (11+12...+19)*	1	29	0.50	2	29	0.11	2	29	0.22

*Only when directed at another pupil

Table 36

Intermediate Teacher Usage of Questioning, Lecturing and Giving Directions

Grade	Group	No. of Classes	Questioning, ECS (4)						Lecturing, ECS (5)						Giving Directions, ECS (6)					
			Fall '72		Spring '73				Fall '72		Spring '73				Fall '72		Spring '73			
			Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %
4	SWF	6	24.25	5.25	23.42	6.84	23.56	15.98	27.32	7.55	25.58	4.76	25.44	18.46	13.65	2.55	13.49	5.26	13.43	5.39
	Con	6	24.54	3.53	22.47	7.77	22.43	14.56	29.91	10.51	34.02	16.15	31.92	27.96	15.39	3.72	13.77	3.48	13.25	5.25
5	SWF	6	25.68	4.42	25.69	3.94	24.98	17.84	24.09	7.44	24.55	6.19	26.84	20.39	11.40	3.31	10.62	6.05	11.16	3.75
	Con	6	24.28	3.33	25.48	2.40	25.60	18.67	28.05	7.12	26.87	7.82	26.18	19.46	10.69	2.46	13.68	3.61	14.41	6.19
6	SWF	6	22.73	5.80	27.15	2.90	28.19	22.31	25.29	8.12	21.23	5.05	22.62	14.79	14.62	6.34	11.60	7.83	11.28	3.83
	Con	6	25.44	2.19	25.04	5.42	24.48	16.78	28.10	8.69	28.51	9.36	27.77	21.71	15.10	5.95	13.64	3.92	13.20	5.22

Table 37

Intermediate Teacher Usage of Differing Types of Questions

Grade	Group	No. of Classes	Fact Memory, ECS (4f)						Convergent, ECS (4c)						Divergent, ECS (4d)					
			Fall '72		Spring '73				Fall '72		Spring '73				Fall '72		Spring '73			
			Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %
4	SWF	6	17.54	5.47	14.97	6.29	15.18	6.85	14.63	1.50	13.75	4.80	13.79	5.68	4.47	4.05	5.89	7.05	5.58	0.95
	Con	6	20.16	2.80	16.20	3.90	15.87	7.48	12.59	2.91	12.63	9.81	12.61	4.76	1.53	1.76	3.81	2.64	4.24	0.55
5	SWF	6	18.81	5.44	16.15	6.01	16.10	7.59	12.95	2.82	16.72	5.66	16.71	8.27	4.93	6.61	5.39	5.20	4.97	0.75
	Con	6	17.59	4.26	19.02	4.48	19.22	10.85	12.92	5.25	12.99	8.22	12.99	5.05	5.51	5.25	4.07	4.22	3.50	0.37
6	SWF	6	17.84	4.21	17.95	6.55	18.09	9.74	11.85	5.36	15.64	4.30	15.61	7.24	1.60	2.85	6.44	4.41	6.85	1.42
	Con	6	19.33	1.76	14.40	7.06	14.24	6.05	13.75	4.33	16.26	6.95	16.28	7.86	1.45	3.56	4.77	4.96	5.22	0.83

Grade	Group	No. of Classes	Evaluative, ECS (4e)					
			Fall '72		Spring '73			
			Mean	SD	Mean	SD	Adj. Mean	Adj. %
4	SWF	6	1.42	2.20	2.78	4.39	3.07	0.29
	Con	6	2.56	2.30	0.43	1.05	0.45	0.02
5	SWF	6	3.17	5.73	0.30	0.74	0.18	0.01
	Con	6	2.49	2.77	0.43	1.05	0.47	0.03
6	SWF	6	2.42	4.26	3.96	5.26	4.02	0.49
	Con	6	3.93	4.90	3.30	4.71	3.00	0.28

Table 38

Intermediate Teacher Usage of Types of Responses to Pupils

Grade	Group	No. of Classes	Acceptance of Feelings ECS (1)						Praise ECS (2)						Acceptance of Ideas ECS (3)					
			Fall '72		Spring '73				Fall '72		Spring '73				Fall '72		Spring '73			
			Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %
4	SWF	6	0.60	0.93	1.26	2.31	1.33	0.07	9.71	3.16	8.38	4.99	8.35	2.11	13.97	3.19	12.91	4.66	13.56	5.50
	Con	6	0.30	0.74	0.00	0.00	0.00	0.00	9.19	3.72	10.40	2.84	10.39	3.25	14.41	2.03	14.30	2.98	14.77	6.50
5	SWF	6	0.00	0.00	0.00	0.00	0.00	0.00	8.31	2.55	8.51	3.27	8.52	2.20	16.42	5.57	13.62	4.55	13.27	5.27
	Con	6	0.30	0.74	1.64	2.16	1.62	0.09	8.30	3.89	10.07	2.43	10.09	3.07	15.41	3.90	13.61	5.96	13.67	5.58
6	SWF	6	0.00	0.00	0.60	0.93	0.49	0.03	8.97	2.78	9.09	3.25	9.09	2.50	17.07	2.35	15.86	6.43	15.23	6.90
	Con	6	0.98	1.67	0.00	0.00	0.19	0.01	8.52	3.25	9.38	3.67	9.40	2.67	16.06	3.47	14.32	3.38	14.11	5.94

Grade	Group	No. of Classes	Criticism, ECS (7)					
			Fall '72		Spring '73			
			Mean	SD	Mean	SD	Adj. Mean	Adj. %
4	SWF	6	13.41	4.62	7.24	4.65	5.42	0.89
	Con	6	11.79	3.74	6.43	3.82	5.73	1.00
5	SWF	6	9.16	2.21	6.14	3.22	7.26	1.60
	Con	6	10.52	1.45	9.01	3.99	9.19	2.55
6	SWF	6	9.89	3.15	7.06	1.74	7.68	1.79
	Con	6	9.93	3.30	7.28	1.57	7.87	1.88

Table 39

Intermediate Teacher Usage of Types of Praise

Grade	Group	No. of Classes	Praises With No Criteria ECS (2w)						Praises With Public Criteria ECS (2P)						Praises With Private Criteria ECS (2p)					
			Fall '72		Spring '73				Fall '72		Spring '73				Fall '72		Spring '73			
			Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %
4	SWF	6	9.16	3.10	7.99	4.89	7.99	1.93	2.63	2.04	1.72	2.08	1.71	0.09	0.00	0.00	0.30	0.74	0.35	0.02
	Con	6	8.40	3.40	9.92	3.00	9.92	2.97	2.80	2.26	1.90	2.35	1.88	0.11	2.34	2.00	0.30	0.74	0.16	0.01
5	SWF	6	7.77	2.63	8.11	3.91	8.11	1.99	2.20	2.01	0.91	1.52	0.90	0.05	0.00	0.00	0.00	0.00	0.04	0.00
	Con	6	7.89	3.62	9.79	2.56	9.79	2.89	1.56	2.51	1.46	1.18	1.47	0.08	0.30	0.74	0.73	1.15	0.75	0.04
5	SWF	6	8.64	3.06	8.88	3.34	8.88	2.38	1.21	1.48	1.03	1.16	1.05	0.06	0.43	1.05	0.60	0.93	0.61	0.03
	Con	6	8.17	3.31	8.94	3.35	8.94	2.42	1.94	1.19	1.47	1.82	1.47	0.08	0.30	0.74	0.91	2.22	0.93	0.05

Table 40

Intermediate Teacher Usage of Types of Criticism

Grade	Group	No. of Classes	Criticizes With No Criteria ECS (7w)						Criticizes With Public Criteria ECS (7P)						Criticizes With Private Criteria ECS (7p)					
			Fall '72		Spring '73				Fall '72		Spring '73				Fall '72		Spring '73			
			Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %
4	SWF	6	10.39	5.16	2.72	3.09	2.46	0.19	7.39	2.59	6.31	3.70	5.80	1.12	1.16	2.08	0.74	1.81	0.83	0.05
	Con	6	8.58	3.27	3.16	3.54	3.12	0.30	7.24	3.35	4.66	2.49	4.19	0.54	1.71	1.55	1.71	1.93	1.65	0.09
5	SWF	6	5.93	3.07	2.89	2.67	3.18	0.31	5.41	2.92	5.20	2.42	5.32	0.86	0.91	1.52	0.00	0.00	0.15	0.01
	Con	6	8.15	3.02	4.22	1.30	4.23	0.55	5.48	2.19	7.52	4.40	7.61	1.75	1.33	1.57	1.03	1.16	1.07	0.06
6	SWF	6	8.25	3.14	2.86	1.18	2.86	0.25	4.56	2.32	5.72	2.52	6.11	1.13	3.31	7.26	1.53	1.76	1.06	0.06
	Con	6	8.38	4.01	3.71	1.39	3.69	0.41	4.58	1.34	5.67	2.37	6.06	1.11	0.60	0.93	1.33	1.06	1.56	0.09

Table 41

Intermediate Teacher Usage of Motivation and Indirectness

Grade	Group	No. of Classes	Motivation ECS (1+2+3) Fall '72 Mean	Fall '72 SD	Spring '73 Mean	Spring '73 SD	Spring '73 Adj. Mean	Spring '73 Adj. %	Indirectness ECS (1+2+3+4) Fall '72 Mean	Fall '72 SD	Spring '73 Mean	Spring '73 SD	Spring '73 Adj. Mean	Spring '73 Adj. %
4	SWF	6	17.29	4.07	16.05	3.87	16.39	7.96	30.69	6.43	29.30	8.44	29.78	24.67
	Con	6	17.45	3.00	18.00	3.12	18.28	9.85	30.91	4.67	29.70	8.08	30.06	25.09
5	SWF	6	18.66	5.72	16.42	4.68	16.28	7.86	33.17	1.88	31.41	5.41	30.50	25.76
	Con	6	17.86	4.72	17.93	3.61	18.07	9.62	31.04	5.63	32.09	3.25	32.38	28.68
6	SWF	6	19.53	2.91	19.10	4.66	18.66	10.23	30.91	6.35	34.43	3.79	34.79	32.55
	Con	6	18.77	2.39	17.43	4.23	17.26	8.80	32.54	2.52	31.40	7.30	30.84	26.28

Table 42

Intermediate Pupil Usage of Types of Pupil Talk

Grade	Group	No. of Classes	Predictable Pupil Talk ECS (8) Fall '72 Mean	Fall '72 SD	Spring '73 Mean	Spring '73 SD	Spring '73 Adj. Mean	Spring '73 Adj. %	Unpredictable Pupil Talk ECS (9) Fall '72 Mean	Fall '72 SD	Spring '73 Mean	Spring '73 SD	Spring '73 Adj. Mean	Spring '73 Adj. %	Pupil Amplifies RCS (13) Fall '72 Mean	Fall '72 SD	Spring '73 Mean	Spring '73 SD	Spring '73 Adj. Mean	Spring '73 Adj. %
4	SWF	6	33.78	6.81	32.56	6.54	31.76	27.70	9.60	2.64	14.27	14.38	14.87	6.58	2.58	3.14	3.33	3.03	3.24	0.32
	Con	6	27.69	5.21	28.60	9.71	31.00	26.53	10.47	2.63	10.01	2.74	9.98	3.01	3.20	5.05	2.50	5.28	2.51	0.19
5	SWF	6	35.93	6.43	33.25	7.77	31.31	27.00	10.79	7.12	19.37	10.39	19.12	10.73	4.37	5.38	2.78	2.92	2.96	0.27
	Con	6	33.89	6.20	30.73	4.06	29.87	24.80	11.54	8.70	13.26	8.19	12.47	4.66	3.57	3.80	2.56	3.99	2.62	0.21
6	SWF	6	31.44	6.16	32.59	7.18	33.02	29.70	11.41	4.28	16.59	8.02	15.89	7.50	4.15	4.44	1.75	3.19	1.89	0.11
	Con	6	30.78	6.80	29.23	6.80	30.00	25.00	8.82	5.42	12.98	12.12	14.14	5.97	1.03	1.63	3.18	4.74	2.87	0.25

Table 43

Intermediate Pupil Usage of Classroom Climate Categories*

Grade	Group	No. of Classes	Pupil Warms the Climate RCS (11)						Pupil Accepts RCS (12)						Pupil Corrects RCS (18)					
			Fall '72		Spring '73				Fall '72		Spring '73				Fall '72		Spring '73			
			Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %
4	SWF	6	0.91	1.52	0.91	1.52	0.91	0.05	0.00	0.00	1.33	1.57	1.24	0.07	1.35	2.09	1.78	2.47	1.61	0.09
	Con	6	0.80	1.96	0.60	0.93	0.58	0.03	0.73	1.15	1.64	1.43	1.79	0.10	1.65	1.99	2.67	2.43	2.58	0.20
5	SWF	6	1.35	2.10	1.33	1.57	1.41	0.08	0.30	0.74	1.33	1.57	1.34	0.07	3.56	2.93	1.17	1.90	1.55	0.09
	Con	6	0.73	1.15	0.43	1.05	0.39	0.02	0.30	0.74	2.21	3.16	2.22	0.15	1.85	2.90	2.86	3.27	2.81	0.24
6	SWF	6	0.30	0.74	1.40	1.89	1.29	0.07	0.30	0.74	0.68	1.65	0.68	0.04	2.24	1.37	2.42	3.29	2.47	0.19
	Con	6	1.10	1.77	1.44	2.73	1.47	0.08	0.00	0.00	1.51	2.91	1.42	0.08	1.51	2.41	3.46	2.95	3.33	0.34

*Category 19 was excluded from these comparisons because it was used only a few times.

Table 44

Intermediate Pupil Talk, Teacher Talk and Pupil-Pupil Talk

Grade	Group	No. of Classes	Pupil Talk ECS (8+9)						Teacher Talk ECS (1+2+3...+7)						Pupil-Pupil Talk* RCS (11+12+13...+19)					
			Fall '72		Spring '73				Fall '72		Spring '73				Fall '72		Spring '73			
			Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %	Mean	SD	Mean	SD	Adj. Mean	Adj. %
4	SWF	6	35.63	6.42	38.76	6.67	38.32	38.45	50.82	5.86	46.31	4.97	46.04	51.82	6.75	2.47	7.35	2.95	7.74	1.81
	Con	6	30.09	4.96	30.80	9.83	33.21	30.00	53.73	6.94	55.19	12.88	52.79	63.43	6.88	1.79	7.21	4.00	7.57	1.74
5	SWF	6	38.71	6.62	41.33	5.13	39.30	40.12	47.58	6.67	45.57	5.49	47.68	54.67	10.01	2.13	8.13	1.87	7.68	1.79
	Con	6	37.25	9.46	35.01	4.33	33.74	34.12	48.98	9.46	49.93	7.62	51.01	60.42	8.51	5.45	8.92	5.03	8.86	2.37
6	SWF	6	34.27	5.35	38.45	7.69	38.71	39.12	48.84	4.01	46.60	5.80	47.79	54.87	9.69	1.44	7.73	3.14	7.37	1.65
	Con	6	32.70	7.66	34.48	7.43	35.55	33.80	52.78	7.43	50.53	9.81	48.82	56.65	7.78	3.09	9.77	8.90	9.89	2.95

*Only when directed at another pupil

V. PUPIL DISCIPLINE RESULTS

Schools using the Schools Without Failure program employ Reality Therapy as a method of disciplining pupils. Both the use of Reality Therapy and positive changes in pupil attitudes would be expected to result in a lessening of discipline problems in SWF schools. In addition, since most SWF school discipline problems are handled within the classroom, referrals to principals for disciplinary reasons would be expected to decrease.

As a means of examining the effects of the SWF program upon school discipline problems, a principal referral card was used. Each time a child was referred to him or her, a principal filled in one of these cards, listing the child's name and the reason for referral.

The principal referral card was employed both from February 1, 1972 until the end of the 1971-72 school year and during the entire 1972-73 school year in all 10 schools involved in the study. The use of the card made it possible to compare 1972-73 discipline problems in the five SWF schools with those in the five control schools. Tabulations of referrals during the latter half of the 1971-72 school year made it possible to determine whether, before the SWF program was begun, discipline problems in schools which later became SWF schools differed from those in schools which later were termed control schools.

Comparisons of Numbers of Pupils Referred

One means of looking at 1972-73 discipline problems was to compare the number of SWF school and control school pupils referred at least one time to their principals. Since the research study focused on pupils in grades 1-6 in regular classrooms, referrals of both special education pupils and kindergarten pupils were excluded from these tabulations. Also excluded were cases in which a pupil was referred for non-disciplinary reasons, such as for counseling or to provide information to the principal.

It was found that, during the 1972-73 school year, 117 pupils from a total of 1,726 SWF school pupils were referred to their principals for disciplinary reasons. This constituted 6.8 per cent of the pupils in these schools. In the control schools 199 pupils from a total of 1,617 control school pupils were referred to their principals. This was 12.3 per cent, or almost twice as high a percentage as in the SWF schools.

These percentages were compared using a z test for the difference between two independent proportions (Ferguson, 1966, p. 204). The z value computed, 5.50, was found significant at beyond the .0001 level. This indicated that there were significantly fewer 1972-73 disciplinary referrals within the SWF schools than there were within the control schools.

A similar procedure to that used for the 1972-73 cards was followed for the principal referral cards filled in during the last four

months of the 1971-72 school year. It was found that for this time period 95 pupils were referred out of 1,794 total pupils in the schools which later became SWF schools. For this same time period 68 pupils were referred out of 1,659 total pupils in the schools which later became control schools. Thus, 5.3 per cent of the pupils in schools which became SWF schools and 4.1 per cent of the pupils in schools which became control schools were referred at least once to their principals. The z test performed to compare these percentages resulted in a value of 1.71, found not to be significant (.05 level, 2-tailed test). The z value did approach significance, however, and it can be said that, if anything, more discipline problems existed in the 1971-72 school year in the schools which later became SWF schools than in the schools which later became control schools.

A second type of comparison performed on 1972-73 discipline problems focused on how often the same pupil was referred to the principal. It was found that for those SWF pupils referred at least once, the average number of referrals per pupil for the entire year was 151/117 or approximately 1.3. For control school pupils this average was 292/199, or approximately 1.5. Of those SWF school pupils referred, 81.2 per cent were referred only once. Of those control school pupils referred, 73.4 per cent were referred only once. Thus, not only were a smaller percentage of SWF school pupils than control school pupils referred, but also control school pupils referred once to their principal were somewhat more likely than SWF school pupils to be referred again at some time during the year.

Comparisons of Reasons for Referrals

The referral to principal cards were categorized according to type of offense for which referral was made. In sorting the cards, all cases involved with special education or kindergarten children were omitted. Other cards not included were cases of abused children, counseling rather than discipline, witnesses to misbehavior, and victims of attack by another child or children (although victims may provoke attack in some cases).

The cards were sorted into the following seven categories for the spring semester of 1972, the fall semester of 1972 (September to January) and the spring of 1973 (February to June):

1. Physical assault, including fighting, throwing stones or other objects, pushing or tripping, and chasing other children.

2. Verbal assault, including talking back to the teacher, loud and abusive language, purely verbal threats.

3. Classroom aberrance, including not working, not paying attention, "messing around in class," or in general disturbing teacher and other children.

4. Disobeying school rules, including general disobedience, chewing gum, breaking rules for lunchroom, playground, street crossing, etc.

5. Property violation, including destroying or marking property, stealing, littering.

6. Attendance or tardiness.

7. Miscellaneous, including a variety of other offenses.

One hypothesis formed from the experience of others in Schools Without Failure trials elsewhere was that while the number of referrals to the principal may not decrease, the type of offenses would change. The percentage of offenses in each category was computed separately for the control and SWF groups during each of the three time periods and for the entire 1972-73 school year. An examination of these percentages (see Table 45) suggests that although the number of referrals decreased, the percentage of various types of offenses did not change. In fact, there is apparently no difference within categories between the SWF schools and control schools or between the spring of 1972 and any of the time periods in the 1972-73 school year.

Table 45

Percentage of Disciplinary Referrals For Each Type of Offense

Reason for Referral	Control Schools				SWF Schools			
	1972	1972-73			1972	1972-73		
	Spring	Fall	Spring	Total	Spring	Fall	Spring	Total
	N=80	N=119	N=173	N=292	N=121	N=95	N=56	N=151
Physical Assault	60.0	52.1	57.2	55.1	63.6	55.8	60.7	57.6
Verbal Assault	17.5	7.6	11.0	9.6	10.7	11.6	7.1	9.9
Classroom Aberrance	2.5	6.7	6.4	6.5	9.9	10.6	10.7	10.6
Disobeying Rules	15.0	21.0	11.6	15.4	5.0	10.6	12.5	11.3
Property Violation	5.0	5.9	6.9	6.5	8.3	3.2	0	2.0
Miscellaneous	0	2.5	3.5	3.1	0	2.1	1.8	2.0
Attendance Tardiness	0	4.2	3.5	3.8	2.5	6.3	7.1	6.6

VI. PARENT ATTITUDES RESULTS

The Schools Without Failure program stresses parental involvement with schools. Parents are invited to visit their children's classrooms, to confer with their children's teachers and to attend evening meetings in which the SWF program is explained and discussed. Parents' attitudes toward educational issues should change as a result of this contact with the SWF program.

Since it can be assumed that the program functions best in schools where parents support it strongly, an attempt was made to determine whether parents of SWF school pupils increased in their support of the SWF philosophy during the first year of the program. In the spring of 1972, before parents became aware of whether their children's schools would be SWF or control the next year, the Glasser Philosophy questionnaire was taken to them by pupils attending all 10 schools. In the spring of 1973 all parents again were asked to respond to the questionnaire.

In analyzing the results of these testings, it was planned to group together the scores of parents having children in the same classroom and to produce a fall and a spring mean for the classroom. As with the pupil achievement scores, it was felt to be most precise to include in the means only scores of parents who responded in both the fall and the spring.

However, a much greater number of questionnaires were returned in the fall than in the spring. If scores of only parents who responded both in the fall and in the spring were included in the means, many fall scores would have been discarded and, in some cases, means would have been computed using a small number of scores.

Therefore, an alternative procedure was tried out. In the procedure only scores of parents having children in either an SWF school or a control school for the entire school year were included in fall means; only scores of parents having children in either an SWF school or a control school for at least the second semester of the year were included in spring means.

Because it seemed best to include in the means both the scores of parents who responded only once to the questionnaire and the scores of parents who responded twice, and because this procedure could have biased the results of the analyses, a test for bias was performed. For each school, scores of parents who responded only in the fall were compared with fall scores of parents who responded in both the spring and the fall. Similarly, scores of parents who responded only in the spring were compared with spring scores of those responding in both the spring and the fall. Of the twenty analyses of variance performed, only one was significant ($F_{1,114}=4.16$); for one school, a fall difference was found. This one difference was not felt to invalidate the procedure, especially in view of the fact that a great deal of bias would have occurred if scores of those who responded only once were dropped. Therefore, scores of those responding only once were included in the means.

In computing classroom means, scores of parents having more than one child in a school entered into the mean of each classroom in which one of their children was a member. Using this criterion and the others just described, it was found that parents of 79 per cent of the pupils in the 10 schools responded in the fall and parents of 65 per cent of these pupils responded in the spring. The per cent responding in the fall was remarkably high in seven of the 10 schools. Parents of over 80 per cent of the pupils in these schools responded.

In two control schools, for certain classrooms the percentages of parents responding were too low for representative means to be computed. Because in one of these schools only 40 per cent of parents responded in the spring, it was arbitrarily decided to include in the analyses scores from only those classrooms for which fall and spring percentages of respondents were at least 40 per cent. After dropping a number of control school classrooms because of this criterion, like numbers of classrooms at the same grade levels were randomly chosen to be dropped in the matched SWF schools. Analyses were performed, therefore, using scores from 10 classrooms at each grade level in both SWF schools and control schools.

As in the teacher attitudes analyses, it was felt to be of value to factor analyze the Glasser philosophy questionnaire. Those 1,737 parents responding in the spring of 1972 served as the sample for the analysis.

The same two factors as were found using teacher responses emerged in the factor analysis (see Appendix J). Therefore, scores were obtained for parents on the total questionnaire as well as on Factor I, Involvement and Factor II, Traditionalism. The reliabilities of the two factors in the spring 1972 testing were .67 and .64 respectively; the spring 1973 reliabilities were .69 and .64.

Although scores of some parents entered into both primary and intermediate classroom means, it was decided to perform analyses for primary classrooms separately from those for intermediate classrooms. This was in order to maintain consistency with other analyses of the study and also because, in a number of instances in the study, primary grade results differed from intermediate grade results. Source tables for the analyses are contained in Appendix H.

Results for Parents of Primary Pupils

Using scores of parents of primary pupils, univariate analyses of covariance were carried out for each factor and for the total questionnaire. For none of the three analyses were significant differences found. Thus, during the first year of the program, parents of primary SWF school pupils did not undergo attitude changes which differed from those of parents of primary control school pupils. Means for both groups are shown in Table 46.

Table 46

Means of Parents of Primary Pupils on the Glasser Philosophy Questionnaire

Grade of Child	Group	No. of Classes	Involvement					Traditionalism					Total				
			Fall '72		Spring '73			Fall '72		Spring '73			Fall '72		Spring '73		
			Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean
1	SWF	10	30.46	1.57	29.84	2.23	29.53	20.06	0.71	20.68	1.40	20.61	50.52	1.61	50.52	3.25	50.00
	Con	10	29.39	2.44	29.95	1.02	30.14	20.38	1.49	20.05	1.45	19.83	49.78	2.52	50.00	2.15	49.96
2	SWF	10	30.15	1.03	29.84	1.35	29.67	19.80	1.55	19.45	1.26	19.52	49.95	2.19	49.29	2.14	49.14
	Con	10	29.45	1.64	30.29	1.27	30.46	20.18	1.88	20.04	1.82	19.92	49.63	2.89	50.33	2.59	50.40
3	SWF	10	29.67	1.04	29.23	1.35	29.29	19.08	0.94	19.55	1.18	19.96	48.76	1.62	48.79	1.94	49.45
	Con	10	29.66	0.86	29.66	1.03	29.73	20.07	1.68	19.67	1.59	19.61	49.73	1.96	49.34	1.84	49.34

Results for Parents of Intermediate Pupils

The results obtained for intermediate parents differed from those obtained for primary parents. In both the analysis of covariance using scores on Factor I ($F_{1,53}=4.40$) and the analysis of covariance using total scores ($F_{1,53}=6.28$), significant differences were found between SWF school and control school parent attitudes. SWF school parents' adjusted spring means were higher than were those of control school parents for both Factor I and for the total questionnaire (see Table 47). Thus, during the year, parents of intermediate SWF school pupils did become more supportive of the Schools Without Failure philosophy. Changes in their attitudes were most pronounced on Factor I, Involvement, indicating that they came to accept more the importance to pupils' achievement of feeling accepted by their teachers and the value of giving pupils more responsibility both for their own discipline and for the discipline of their schools.

Table 47

Means of Parents of Intermediate Pupils on the Glasser Philosophy Questionnaire

Grade of Child	Group	No. of Classes	Involvement					Traditionalism					Total				
			Fall '72		Spring '73			Fall '72		Spring '73			Fall '72		Spring '73		
			Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean	Mean	SD	Mean	SD	Adj. Mean
4	SWF	10	29.46	1.18	29.71	1.47	29.58	19.15	1.30	19.69	1.92	19.70	48.61	1.93	49.36	1.76	49.28
	Con	10	28.56	1.14	28.52	0.90	29.13	19.71	1.11	19.68	2.05	19.44	48.27	2.14	48.20	1.97	48.32
5	SWF	10	29.43	1.26	29.48	1.57	29.37	19.27	1.36	18.98	1.55	18.94	48.69	1.86	48.45	2.57	48.32
	Con	10	29.18	1.29	28.39	2.49	28.49	19.38	1.63	19.60	1.21	19.50	48.56	2.05	47.99	2.13	47.94
6	SWF	10	29.40	1.38	29.66	1.23	29.57	18.60	1.30	19.78	1.19	20.03	48.00	1.48	49.44	2.01	49.71
	Con	10	29.75	1.26	29.16	1.80	28.78	18.95	1.48	18.41	1.34	18.51	48.70	2.21	47.56	2.57	47.43

VII. CORRELATION RESULTS

As a means of investigating relationships among the variables of the study, correlation matrices were prepared. The purpose of computing these correlations was not to examine the SWF program but to examine the variables used in measuring its effects. Data from spring 1973 measurements of both SWF school and control school classrooms entered into the correlations and, thus, relationships uncovered were a function of both types of schools. Tables 48 and 49 show matrices relating pupil attitudes, pupil achievement, teacher attitudes and parent attitudes for primary and intermediate classrooms.

As shown in Table 48, in primary classrooms a high relationship existed between pupil achievement and pupil self concept. However, classes achieving best tended to have the poorest attitudes toward school. High scores in attitude toward school and high scores in acceptance of others' ideas tended to go together. No relationships existed between pupils' self concept and either attitude toward school or acceptance of others' ideas.

In intermediate classrooms (Table 49) self concept and achievement were also highly related. The EQA Attitude Toward School instrument showed low negative correlations with both achievement and self concept, but scores on the School Attitude Scale did not relate to achievement and related positively to self concept. As in the primary grades, relatively high relationships existed between pupil attitudes toward school and pupil attitudes toward others.

For both primary and intermediate teachers, scores on one attitude instrument tended to relate highly to scores on the others used. Satisfaction with Teaching related highly to acceptance of the Glasser philosophy and to Child-Centeredness.

Parental acceptance of the Glasser philosophy was related to pupil attitude toward school in the primary grades, but showed little relationship with variables measured in intermediate classrooms.

Table 50 shows spring 1973 correlations among transformed percentages of usage of categories of the ECS and RCS. High correlations between certain ECS and RCS categories indicated that they measured similar things.

Probably the most valuable use of Table 50 is in determining categories which typically were used together. For example, the use in a classroom of fact-memory questioning, 4f, tended to go along with praise and criticism, with predictable pupil talk and with periods of silence. The use of divergent questioning, 4d, went along with unpredictable pupil talk and with less use of praise, criticism, predictable pupil talk and silence.

Using spring 1973 measurements Table 51 shows ECS, RCS and Flanders categories related significantly to primary classroom scores on all other measures of the study. It can be seen in the table that there was a tendency for more silence and confusion to be found in low achieving

Table 48

Correlations Among Primary Variables *

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Word Meaning																				
2. Paragraph Meaning	98																			
3. Word Study Skills	91	93																		
4. Pictorial Self-Concept	41	43	48																	
5. School Attitude Scale	-47	-45	-36	-01																
6. Others' Ideas	-18	-18	-13	-04	38															
7. F_I: In-School Talking	-31	-30	-21	06	82	32														
8. F_{II}: School Climate	-57	-56	-51	-12	91	33	69													
9. F_{III}: Difficult Schoolwork	-31	-28	-21	06	88	36	71	73												
10. F_{IV}: Verbal Schoolwork	-30	-29	-18	-02	78	27	53	63	54											
11. F_V: Evaluation	-43	-44	-33	02	68	23	44	55	45	63										
12. F_I: Involvement	05	06	05	-10	03	-13	07	01	05	-07	04									
13. F_{II}: Traditionalism	-12	-11	-13	-10	13	08	17	15	17	-05	03	44								
14. Glasser Philosophy	-06	-05	-08	-14	09	02	14	10	13	-09	00	65	94							
15. F_I: Child-Centeredness	05	04	-02	-03	04	-02	09	07	06	-11	02	58	51	62						
16. F_{II}: Rigidity	04	04	00	-08	06	-10	02	09	11	-06	03	42	43	52	51					
17. Opinionnaire on Education	15	04	-01	-06	06	-07	06	09	10	-09	03	57	54	65	85	89				
18. Satisfaction with Teaching	15	16	15	-04	-05	-15	-08	02	-04	-10	-05	24	39	39	29	25	31			
19. F_I: Involvement	-11	-09	-04	08	25	13	32	17	15	31	18	-14	-28	-31	05	-25	-18	-28		
20. F_{II}: Traditionalism	-14	-09	-09	05	27	00	30	21	15	30	25	00	11	06	04	-03	00	-08	39	
21. Glasser Philosophy	-15	-11	-07	08	31	07	37	23	18	36	25	-08	-10	-14	-01	-16	-10	-21	82	85

*Correlations were computed using spring, 1973 means from 73 SWF school and control school classrooms. Decimal points were removed to save space. Correlations .23 or greater are significant at beyond the .05 level

Variables:

1-3 Pupil Achievement
4-11 Pupil Attitudes
12-18 Teacher Attitudes
19-21 Parent Attitudes

Table 49

Correlations Among Intermediate Variables *

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1. Word Meaning																											
2. Paragraph Meaning	96																										
3. Spelling	93	91																									
4. Language	94	95	93																								
5. Arithmetic Computation	74	77	74	74																							
6. Arithmetic Concepts	88	90	87	90	83																						
7. Arithmetic Applications	92	94	90	93	82	91																					
8. Piers-Harris Self-Concept	71	73	65	71	50	64	70																				
9. F_I: Behavior	68	69	65	69	46	60	69	90																			
10. F_{II}: Intellectual and School Status	60	63	54	63	46	56	60	93	79																		
11. F_{III}: Physical Appearance	65	67	59	62	52	61	62	90	72	87																	
12. F_{IV}: Anxiety	64	67	59	65	43	56	63	91	74	84	82																
13. F_V: Popularity	67	68	60	63	55	61	65	91	76	80	84	84															
14. F_{VI}: Happiness	58	63	55	59	39	54	60	90	75	80	79	88	86														
15. EQA Attitude Toward School	-24	-22	-15	-24	-16	-26	-16	-23	-22	-20	-24	-22	-13	-12													
16. School Attitude	-08	01	-05	02	04	09	05	23	22	30	07	13	16	25	28												
17. Others' Ideas	01	07	-06	03	02	-01	02	17	10	22	07	17	26	21	36	37											
18. Others	-01	08	-02	09	-01	02	07	13	06	16	07	13	19	14	35	39	74										
19. F_I: Involvement	08	14	04	18	00	03	09	09	19	03	-07	08	00	12	-22	-05	05	09									
20. F_{II}: Traditionalism	-21	-15	-17	-17	-27	-17	-25	-13	-02	-18	-25	-06	-24	-06	-06	03	02	03	22								
21. Glasser Philosophy	-13	-05	-11	-04	-21	-11	-15	-06	08	-13	-23	-01	-19	02	-15	00	04	07	66	88							
22. F_I: Child-Centeredness	-12	-07	-12	-04	-19	-11	-15	-09	-03	-08	-21	-06	-26	-12	-18	22	02	09	47	45	58						
23. F_{II}: Rigidity	04	12	-01	03	01	06	09	16	25	06	06	12	12	13	-11	14	21	21	30	16	27	21					
24. Opinionnaire on Education	-04	04	-07	-01	-10	-02	-03	06	16	00	-08	05	-07	02	-18	23	16	20	48	37	52	72	83				
25. Satisfaction with Teaching	-03	01	00	01	-13	-02	-06	-01	04	02	-06	02	-14	00	-12	01	-06	-08	38	30	42	58	-04	31			
26. F_I: Involvement	09	08	05	05	10	05	04	00	-03	-06	03	07	-02	-03	-21	-08	-06	-17	13	14	17	21	11	20	27		
27. F_{II}: Traditionalism	11	15	08	14	18	11	16	-01	-03	-03	01	08	-02	01	-15	05	-24	-04	17	-06	04	02	11	09	-17	08	
28. Glasser Philosophy	07	08	02	05	15	02	06	00	-04	-07	01	09	-01	01	-27	-03	-19	-20	25	04	15	21	17	25	13	76	65

*Correlations were computed using spring, 1973 means from 61 SWF school and control school classrooms. Decimals were removed to save space. Correlations .25 or greater are significant at beyond the .05 level.

Variables:

1-7 Pupil Achievement
8-18 Pupil Attitudes
19-25 Teacher Attitudes
26-28 Parent Attitudes

Table 50

Correlations Among ECS and RCS Observation Categories*

	1a	1c	1r	2w	2R	2p	3a	3c	3s	4f	4c	4d	4e	5f	5m	5o	5p	6c	6m	7w	7P	7p	8f	8c	9d	9e	9i	10	10s	10c	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1a																																																
1c	--																																															
1r	41	44																																														
2w	--	--	--																																													
2P	22	--	--	--																																											
2p	29	--	--	--	--																																										
3a	--	--	--	--	--	--																																									
3c	--	--	--	--	25	--	35																																									
3s	--	--	--	--	--	--	--	--																																							
4f	--	--	--	33	31	--	--	29	--																																						
4c	--	--	--	--	--	--	--	--	--	-43																																					
4d	--	--	--	-27	--	25	--	--	--	-37	23																																				
4e	--	--	--	--	--	--	--	--	--	--	--	54																																		
5f	--	--	--	--	--	--	--	22	--	--	--	-32	--																																	
5m	--	--	--	--	23	24	--	24	--	--	--	--	--	--																																	
5o	--	--	--	--	38	--	--	--	--	--	--	--	--	--	22																																	
5p	29	--	--	--	42	28	--	22	--	--	--	--	--	35	34	37																																
6c	--	--	--	38	--	--	-42	-26	--	--	-27	-41	--	--	--	--	--																															
6m	--	--	--	--	26	--	--	--	--	--	--	--	--	--	--	35	--	--																														
7w	--	--	--	22	--	--	--	--	--	--	--	-30	--	--	--	--	--	28	--																													
7P	--	--	25	--	37	--	--	--	--	42	-48	-28	-22	--	22	24	--	24	--	35																													
7p	--	--	--	31	--	23	-25	--	-24	42	-38	-29	--	--	--	--	--	37	--	30	36																												
8f	--	--	--	--	--	--	--	--	--	45	-61	-43	-23	--	--	--	--	29	--	--	41	--																										
8c	--	--	--	--	-22	--	--	--	--	-51	78	--	--	-31	--	--	-41	--	--	--	-43	-34	-57																								
9d	--	--	--	-35	-24	--	--	--	--	-51	27	73	35	-35	--	--	-23	-48	--	-31	-40	-43	-50	29																							
9e	--	--	--	--	--	--	--	--	--	--	--	52	91	-25	--	--	--	--	--	--	-24	--	-25	--	42																					
9i	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--																				
10	--	--	--	--	--	--	-30	-25	--	--	-32	--	--	-30	-26	--	--	--	--	--	--	--	37	-24	--	--	55																			
10s	--	--	--	--	--	--	--	--	--	25	-29	-36	--	--	--	--	--	36	35	27	48	34	23	--	-39	--	--	--																			
10c	--	--	--	--	--	--	-30	--	--	--	--	--	--	-24	--	--	--	--	--	--	--	--	--	--	35	--	48	41	--																		
1	--	--	28	35	39	--	--	--	--	--	--	--	--	--	42	--	37	--	--	28	--	--	--	--	-34	--	--	-23	--	--																
2	--	--	29	29	42	--	67	53	--	56	--	--	--	--	26	--	--	--	--	--	27	--	--	--	-37	--	-22	-31	--	-35	32															
3	--	--	--	--	22	31	40	62	--	40	--	23	--	28	27	--	--	-38	--	-26	--	--	--	-24	--	--	-34	-26	-30	--	--	60														
4	--	--	--	--	31	--	42	40	--	39	37	--	--	--	--	--	--	-29	--	--	--	--	--	--	--	--	--	-26	--	-27	--	55	27												
5	--	--	--	--	--	--	--	--	--	--	--	-38	-23	27	--	--	--	--	--	--	--	--	--	--	-32	--	48	--	--	--	--	--	--	--	--	--	--	--						
6	--	--	--	--	--	--	--	--	--	--	--	--	--	80	--	--	41	--	--	--	-22	--	-25	--	-27	--	--	-32	-32	--	--	--	--	--	--	--								
7	--	--	--	--	--	--	-22	--	--	22	-39	-44	--	--	--	30	--	83	28	30	46	27	44	-25	-54	-25	--	--	53	--	23	--	-37	--	27	--								
8	--	--	--	--	--	--	--	--	-37	38	-38	-35	-24	--	--	--	--	41	--	51	61	48	40	-34	-44	-23	--	--	26	--	--	--	--	--	--	42								
9	--	--	--	--	--	31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	37	27	--	--	--	--	--	--	--	--	--	--	--	--	--	--								
10	--	--	--	--	--	--	-28	-33	--	--	-30	-28	--	-35	--	--	--	50	--	--	35	29	--	--	-27	--	--	22	72	--	--	--	-33	-29	--	-36	49	41	--						
11	--	--	--	--	--	--	-29	--	--	-23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	32	--	--	23	--	--	46	--	-31	--	-26	--	--	--	--						
12	24	--	--	-24	--	--	--	-23	--	--	-28	--	--	--	--	--	--	--	--	--	--	--	31	--	--	--	34	53	--	--	--	--	-25	--	-25	--	--	--	25	--				
13	--	--	--	--	--	--	-23	--	-22	40	-52	--	--	--	--	--	--	--	--	--	22	28	25	-48	--	--	24	41	--	32	--	--	--	-25	--	--	--	--	--	28				
14	--	--	--	--	--	-29	-30	--	--	--	--	-29	--	--	--	--	--	24	--	--	--	--	--	--	--	--	39	--	--	--	--	-26	-33	--	65	--	--	--	--	--	--			
15	--	--	--	--	--	-24	--	-24	--	-24	24	-25	--	-39	--	--	-24	25	--	--	--	--	32	36	--	--	--	--	--	--	--	-24	-54	--	--	-23	--	--	--	--	--	-27	--		
16	--	--	--	-48	--	--	--	--	--	-38	--	71	34	-28	--	--	--	-55	--	-35	-33	-47	-32	--	85	44	--	44	-42	--	-28	--	--	--	-28	-35	-49	-41	--	-36	25	--	--	--	-35		
17	--	--	--	--	--	--	--	-29	--	--	-38	--	--	--	--	--	--	--	--	--	--	--	--	-26	--	--	25	62	--	25	-24	--	--	--	--	--	--	--	--	--	34	39	26	-23	--		
18	--	--	--	--	--	--	--	-30	--	--	-49	--	--	-24	--	--	--	--	--	--	32	--	47	-28	--	--	41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
19	--	--	--	--	--	--	-24	--	--	--	-25	--	--	48	--	--	--	--	--	--	--	22	--	-26	--	--	--	--	--	--	--	--	--	--	--	-34	26	35	--	37	--	55	49	24	--	--	37	
																																				35	--	--	--	--	--	--	30	22	-31	--	28	--

* Correlations were computed using spring 1973 transformed percentages from 79 SWF school and control school classrooms. Decimal points were removed to save space. Only correlations significant at beyond the .05 level are shown (.22 or greater).

Variables:

1a-10c Expanded Category System
1-19 Reciprocal Category System

Table 51

Observation Categories Significantly Correlated with Primary Variables *

Variable	Observation Category and Correlations
1. Word Meaning	FL-10(-.32)
2. Paragraph Meaning	FL-10(-.34)
3. Word Study Skills	ECS-10c(-.32); FL-10(-.36)
4. Pictorial Self-Concept	ECS-5p(-.44); RCS-18(-.42)
5. School Attitude Scale	ECS-3c(-.36); ECS-5o(.38); ECS-7w(.32)
6. Others' Ideas	ECS-3a(.46); ECS-5f(.41); ECS-5o(.38); ECS-6c(-.34); FL-3(.39); FL-5(.45); FL-6(-.37)
7. F_I: In-School Talking	----
8. F_{II}: School Climate	ECS-5o(.44)
9. F_{III}: Difficult Schoolwork	ECS-3c(-.33)
10. F_{IV}: Verbal Schoolwork	ECS-5f(.37); ECS-5o(.35); ECS-7w(.34); ECS-9d(-.32); ECS-10c(-.44); FL-5(.40)
11. F_V: Evaluation	ECS-3c(-.40); ECS-5o(.37); ECS-10c(-.37)
12. F_I: Involvement	ECS-10c(-.33); FL-10(-.37)
13. F_{II}: Traditionalism	-----
14. Glasser Philosophy	-----
15. F_I: Child-Centeredness	ECS-5m(.38); ECS-5o(.37)
16. F_{II}: Rigidity	ECS-5p(.38)
17. Opinionnaire on Education	ECS-5m(.32); ECS-5o(.32); ECS-5p(.33)
18. Satisfaction with Teaching	ECS-10c(-.40); FL-10(-.34)

*ECS = Expanded Category System; RCS = Reciprocal Category System;
FL = Flanders System. Correlations were computed using spring, 1973 transformed percentages and means from 37 SWF school and control school classrooms. Correlations .32 and greater were significant beyond the .05 level.
Only categories used in at least one-half the classrooms were included in the correlations. The following categories were deleted because of this criterion: ECS(1a), (1c), (1s), (2p), (3s), (7p)
FL(1)
RCS(9), (11), (12), (13), (17), (19).

Variables:

1-3 Pupil Achievement
4-11 Pupil Attitudes
12-18 Teacher Attitudes

classrooms than in high. There also tended to be more silence and confusion in classrooms of teachers scoring lowest on the Satisfaction with Teaching instrument. Teachers accepting at least the Involvement aspects of the Glasser philosophy tended to have less silence and confusion in their classroom interactions. Acceptance of pupil ideas by teachers was highly related to pupils accepting each others' ideas.

Table 52 shows significant relationships among intermediate teacher attitudes and classroom interactions. Since in the intermediate grades a departmentalized approach was used, intermediate teachers taught a number of different classes. Therefore, no attempt was made to relate teacher classroom interactions with characteristics of a single class.

It can be seen in Table 52 that acceptance of the Glasser philosophy and of the statements of the Opinionnaire on Attitudes Toward Education tended to go along with the use of convergent and divergent questioning, with the use of amplication of ideas and with less use of criticism, less giving of directions and less silence and confusion. Relationships of this type give some evidence for the validity of the teacher attitude instruments.

Finally, Tables 53, 54 and 55 show fall to spring correlations for primary and intermediate attitude and achievement measures; Tables 56 and 57 show fall to spring correlations for categories of the observation instruments.

It can be seen in the first three tables that, for both SWF schools and control schools, fall to spring correlations for virtually all instruments were high. This result was expected in planning the statistical analyses using fall scores as covariates of spring scores.

Spring teacher attitude scores were more predictable from fall scores for control school teachers than for SWF school teachers. The changes which occurred in SWF school teacher attitudes as a result of SWF training were less predictable from their fall scores.

For the observation category correlations, since there was little usage of a number of the ECS categories, the categories were collapsed into the 10 Flanders categories before correlations were computed. For the RCS, since extensive pupil usage of only a fraction of the available categories occurred, only teacher categories were included in the correlations.

As shown in Tables 56 and 57, classroom meeting interactions were not, in general, highly related to either fall or spring interactions. As with teacher attitudes, fall to spring correlations for observation categories were higher for control school teachers than for SWF school teachers. Certain categories of the systems were more stable than others; among these were lecture (Flanders-5), criticism (Flanders-7), silence and confusion (Flanders-10), acceptance (RCS-2) and correction (RCS-8). For these categories SWF school and control school teacher usage in the fall was highly related to usage in the spring, and, for SWF school teachers, usage in both the fall and the spring was highly related to usage in classroom meetings.

Table 52

Observation Categories Significantly Correlated with Intermediate Teacher Attitudes*

Attitude Measure	Observation Category and Correlation
1. $F_{I:}$ Involvement	ECS-10s(-.35); FL-7(-.34); FL-10(-.41)
2. $F_{II:}$ Traditionalism	ECS-4c(.43); ECS-8c(.35); ECS-10s(-.36); RCS-18(-.37); FL-7(-.35); FL-10(-.40)
3. Glasser Philosophy	ECS-4c(.44); ECS-6c(-.40); ECS-7P(-.41); ECS-8c(.37); ECS-10(-.34); ECS-10s(-.46); RCS-10(-.41); FL-6(-.39); FL-7(-.45); FL-10(-.53)
4. $F_{I:}$ Child-Centeredness	ECS-7P(-.37); ECS-10s(-.52); RCS-10(-.38); FL-7(-.39); FL-10(-.54)
5. $F_{II:}$ Rigidity	ECS-4d(.37); ECS-6c(-.34); ECS-7P(-.35); ECS-10s(-.47); ECS-10c(-.53); RCS-3(.40); RCS-7(-.42); RCS-10(-.36); RCS-16(.37); FL-6(-.35); FL-7(-.36); FL-10(-.50)
6. Opinionnaire on Education	ECS-4d(.37); ECS-6c(-.36); ECS-7P(-.45); ECS-10s(-.63); ECS-10c(-.42); RCS-7(-.41); RCS-10(-.46); FL-6(-.37); FL-7(-.47); FL-10(-.65)
7. Satisfaction with Teaching	ECS-5p(-.39)

*ECS = Expanded Category System; RCS = Reciprocal Category System; FL = Flanders System. Correlations were computed using spring, 1973 transformed percentages and means from 34 SWF school and control school classrooms.

Correlations .34 and greater were significant at beyond the .05 level. Only categories used in at least one-half the classrooms were included in the correlations. The following categories were excluded because of this criterion:

ECS(1a), (1c), (1s), (2p), (3s), (7p); FL(1); RCS(9), (11), (12), (13), (17), (19)

Table 53

Primary Fall to Spring Achievement Correlations

Grade	Variable*	SWF and Control No. of Classes	r
1	Word Meaning	27	.84
1	Paragraph Meaning	27	.82
1	Vocabulary	27	.81
1	Word Study Skills	27	.88
2	Word Meaning	26	.94
2	Paragrapn Meaning	26	.95
2	Word Study Skills	26	.86
3	Word Meaning	24	.88
3	Paragraph Meaning	24	.93
3	Spelling	24	.90
3	Word Study Skills	24	.94
3	Language	24	.90
3	Arithmetic Computation	24	.70
3	Arithmetic Concepts	24	.80
3	Science & Social Studies	24	.62

*For grade 1, fall total scores on the Early School Achievement Test were correlated with spring scores on each of the four subscales.

Table 54

Primary Fall to Spring Attitude Correlations

Variable	SWF No. of Scores	SWF r	Control No. of Scores	Control r
1. Pictorial Self-Concept	38	.66	37	.52
2. School Attitude Scale	38	.68	37	.50
3. Others' Ideas	38	.12	37	.54
4. FI: In-School Talking	38	.39	37	.43
5. FII: School Climate	38	.69	37	.68
6. FIII: Difficult Schoolwork	38	.63	37	.39
7. FIV: Verbal Schoolwork	38	.21	37	-.05
8. FV: Evaluation	38	.34	37	.35
9. FI: Involvement	37	.65	34	.71
10. FII: Traditionalism	37	.56	34	.67
11. Glasser Philosophy	37	.62	34	.73
12. FI: Child-Centeredness	37	.49	34	.77
13. FII: Rigidity	37	.63	34	.86
14. Opinionnaire on Education	37	.57	34	.87
15. Satisfaction with Teaching	37	.57	34	.63
16. FI: Involvement	39	.60	33	.39
17. FII: Traditionalism	39	.47	33	.46
18. Glasser Philosophy	39	.64	33	.61

Variables:

1-8 Pupil Attitudes
9-15 Teacher Attitudes
16-18 Parent Attitudes

Table 55

Intermediate Fall to Spring Correlations

Variable	SWF No. of Scores	SWF r	Control No. of Scores	Control r
1. Word Meaning	36	.94	37	.97
2. Paragraph Meaning	36	.91	37	.98
3. Spelling	36	.97	37	.98
4. Language	36	.92	37	.95
5. Arithmetic Computation	36	.83	37	.88
6. Arithmetic Concepts	36	.84	37	.93
7. Arithmetic Applications	36	.92	37	.97
8. Piers-Harris Self-Concept	35	.87	35	.82
9. FI: Behavior	35	.78	35	.79
10. FII: Intellectual & School Status	35	.72	35	.80
11. FIII: Physical Appearance	35	.53	35	.73
12. FIV: Anxiety	35	.83	35	.65
13. FV: Popularity	35	.73	35	.35
14. FVI Happiness	35	.84	35	.43
15. EQA Attitude Toward School	35	.29	35	.24
16. School Attitude	35	.46	35	.69
17. Others' Ideas	35	.61	35	.19
18. Others	35	.35	35	.40
19. FI: Involvement	31	.31	32	.52
20. FII: Traditionalism	31	.45	32	.59
21. Glasser Philosophy	31	.46	32	.67
22. FI: Child-Centeredness	31	.46	32	.56
23. FII: Rigidity	31	.68	32	.68
24. Opinionnaire on Education	31	.55	32	.66
25. Satisfaction with Teaching	31	.62	32	.70
26. FI: Involvement	36	.45	33	.63
27. FII: Traditionalism	36	.39	33	.56
28. Glasser Philosophy	36	.44	33	.54

Variables:

1-7 Pupil Achievement
8-18 Pupil Attitudes
19-25 Teacher Attitudes
26-28 Parent Attitudes

Table 56

Fall-Spring, Fall-Classroom Meeting (CM) and Classroom Meeting-Spring Correlations for Categories of the Flanders*

	SWF Schools			Control Schools
Category	Fall-CM r	CM-Spring r	Fall-Spring r	Fall-Spring r
1	.04	-.13	-.13	.15
2	.37	-.26	.04	.43
3	.10	.36	.11	.31
4	.10	.09	.48	.44
5	.24	.29	.61	.79
6	.09	-.16	.19	.47
7	.55	.68	.65	.64
8	.02	.37	.28	.21
9	.04	.30	.35	.35
10	.29	.21	.27	.55

*Adjusted percentages for 41 SWF school classrooms and for 40 control school classrooms entered into the correlations.

Table 57

Fall-Spring, Fall-Classroom Meeting (CM) and Classroom Meeting-Spring Correlations for Teacher Categories of the Reciprocal Category System*

	SWF Schools			Control Schools
Category	Fall-CM r	CM-Spring r	Fall-Spring r	Fall-Spring r
1	.05	.30	.21	.41
2	.37	.43	.25	.25
3	-.34	.15	-.19	-.04
4	.15	.00	.46	.00
5	.11	.32	.54	.27
6	-.06	-.06	.31	.51
7	.01	.38	.32	.45
8	.56	.33	.47	.50
9	.34	.44	.24	-.01
10	.11	.17	.15	.51

*Adjusted percentages for 41 SWF school classrooms and for 40 control school classrooms entered into the correlations.

CHAPTER IV

DISCUSSION AND CONCLUSIONS

The results of the study indicate that the Schools Without Failure training program was highly effective in imparting the SWF philosophy to teachers and in convincing them of its validity. Both teachers acting as leadership team members, chosen to learn directly from the ETC associate, and teachers learning from leadership team members in school seminar sessions came to accept the SWF philosophy more during the year than they had before training was begun. Teachers became more child-centered, more willing to help pupils feel accepted in school, more willing to give pupils some responsibility for their own discipline and for that of their schools. In addition, teachers began to question many traditional educational practices such as punishment to deal with discipline problems and asking pupils to memorize facts without understanding their importance to their lives. These results are consistent with those reported by Butterworth (1971), Robert (1971) and Jensen (1973).

Strong evidences of the training program's success in showing teachers how to implement the philosophy were also found. Interactions in classroom meetings were very different from fall and spring instructional session interactions. Classroom meetings were, as they should have been, open-ended and nonjudgmental. Teachers acted in them as discussion facilitators rather than as lecturers or as authorities.

A second indication of success in teaching SWF methods to teachers was uncovered through the analysis of principal referral cards. The fact that referrals to principals were reduced markedly in SWF schools provided evidence of the success of the training program in instructing teachers in the effective use of the Reality Therapy approach to discipline.

Finally, analyses of classroom interactions in instructional sessions revealed that, during the year, SWF school teachers began to apply some of their classroom meeting techniques to their teaching of subject matter. In primary classrooms there was some tendency for teachers to use differing kinds of questioning; their responses to pupils became less judgmental. In intermediate classrooms pupils talked more in spring instructional sessions than they had in the fall. This can be attributed to increased self-confidence and ability to express themselves gained through classroom meetings.

As with other first-year studies of the Schools Without Failure program (e.g., Keepes, Engel and Thorne, 1971; Butterworth, 1971), few changes were found in pupils. However, there were some positive changes in primary pupil attitudes toward being in school and toward doing difficult schoolwork. There were also some positive changes in intermediate pupil attitudes toward the importance of doing school assignments and the importance of learning. These results are very much in line with those found in the Keepes, Engel and Thorne (1971) study indicating that

pupils exposed to the SWF program became more positive in their attitudes toward being task-oriented and toward being involved in work-type activities.

SWF school pupil achievement differed little from that of control school pupils. Differences found favoring control school pupils could have been a function of less class time being available in SWF schools than in control schools because of SWF teacher training sessions. The difference found favoring SWF schools in a verbal skill area may have been a function of the use of classroom meetings.

Finally, the change which took place in attitudes of SWF school intermediate parents indicates that the parental involvement aspects of the program did have some effect. This change is somewhat remarkable because not all parents participated in school meetings or in discussions with teachers about the program. However, the change is even more remarkable because the Schools Without Failure program was under attack in New Castle at the time the spring 1973 questionnaire was sent to parents. The barrage of criticism emanating from the small attacking group, composed of opponents to all forms of humanization of education, apparently had little effect upon parental attitudes.

One year of the Schools Without Failure program, then, produced changes in teacher attitudes and behaviors consistent with the objectives of the training program. There was also some evidence that pupil attitudes toward school were becoming more positive.

These changes seem to indicate that after one year the program was in an intermediate stage (Bush, 1971). Changes in teacher attitudes and behaviors must precede changes in pupils. These changes in teachers, then, can be viewed as a prelude to changes in pupils. The continuation of the research component of the project through a second year should give a much clearer picture of the effects of the Schools Without Failure program upon pupils.

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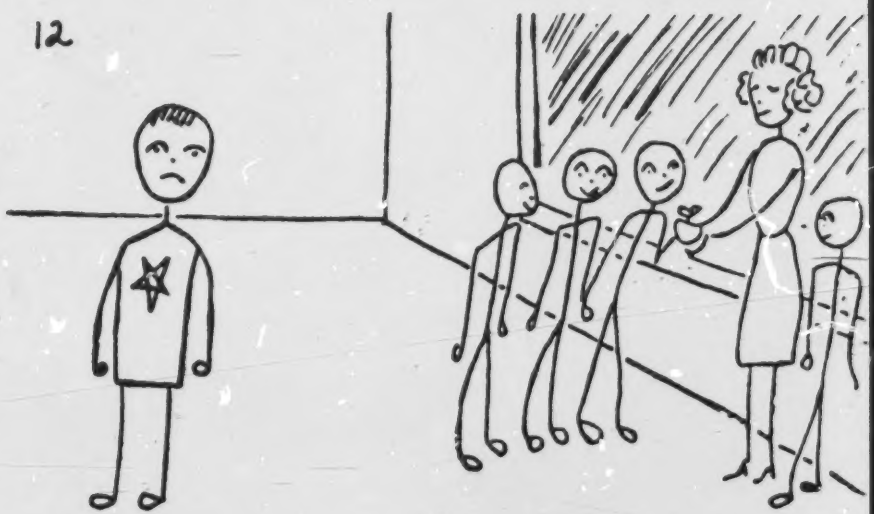
Appendix A

Sample Items from Pictorial Self-Concept Scale

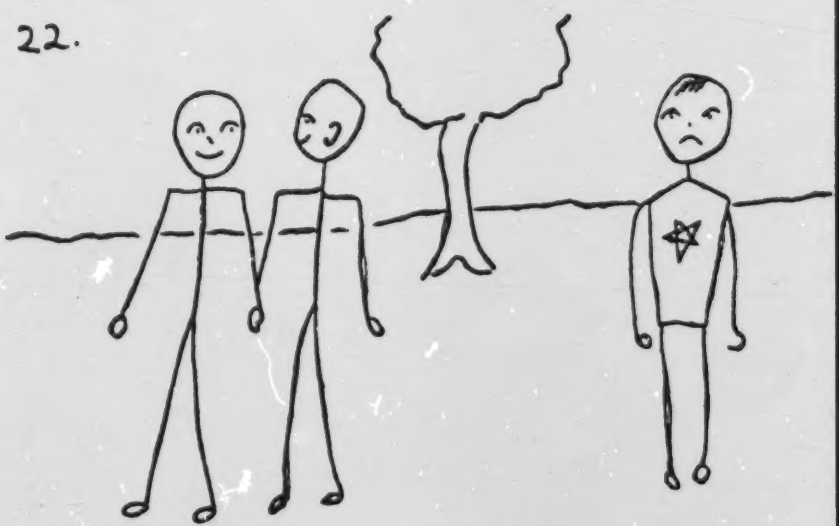
2.

12



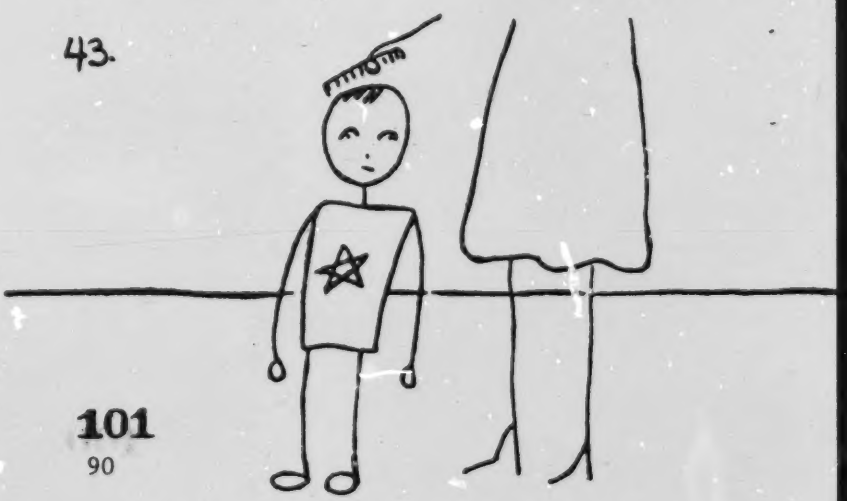
11.

22.



13.

43.



Sample Items from Piers-Harris Children's
Self-Concept Scale

*My classmates make fun of me . . . . . .yes no

When I grow up I will be an important person . . . . . .yes no

I have good ideas. . . . . .yes no

I have pretty eyes . . . . . .yes no

I am lucky . . . . . .yes no

*When I try to make something, everything goes wrong. . . . .yes no

I can be trusted . . . . . .yes no

I am a good person . . . . . .yes no

*Designates reversed items. For these items a response of "no" was scored "1"; for all other items a response of "yes" was scored "1." Scores on the 80-item instrument could range from 0 to 80.

Sample Items and their Loadings on Factors of the
Piers-Harris Children's Self-Concept Scale*

I. Behavior. I do many bad things (.66); I am obedient at home (-.64); I am often in trouble (.60); I think bad thoughts (.55); I can be trusted (-.53).

II. Intellectual and School Status. I am good in my schoolwork (-.66); I am smart (-.63); I am dumb about most things (.56); I am a good reader (-.55); I forget what I learn (.53).

III. Physical Appearance and Attributes. I am goodlooking (-.74); I have a pleasant face (-.61); I have a bad figure (.56); I am strong (-.41); I am a leader in games and sports (-.40).

IV. Anxiety. I cry easily (-.57); I worry a lot (-.57); I am often afraid (-.55); I get nervous when the teacher calls on me (-.54); I am nervous (-.49).

V. Popularity. People pick on me (-.62); I am among the last to be chosen for games (-.61); It is hard for me to make friends (-.56); I have many friends (.55); I feel left out of things (-.49).

VI. Happiness and Satisfaction. I am a happy person (.65); I am unhappy (-.62); I like being the way I am (.60); I wish I were different (-.57); I am cheerful (.42).

*Taken from (Piers and Harris, 1969, pp. 19-20).

ED107682

School Attitude Scale (Grades 1-3)*

This is how I feel when I go to the zoo.

This is how I feel when I go to the doctor.

TM 004 496

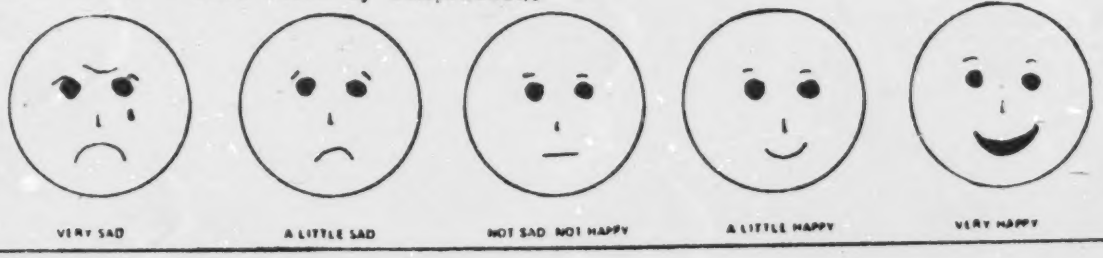
*For all items but number 14, item scores were the following: Very Happy = 5; A Little Happy = 4; Not Sad Not Happy = 3; A Little Sad = 2; Very Sad = 1. For item 14 the scale was reversed. Scores on the instrument could range from 30 to 150.

Factor

1. This is how I feel when I come to school.

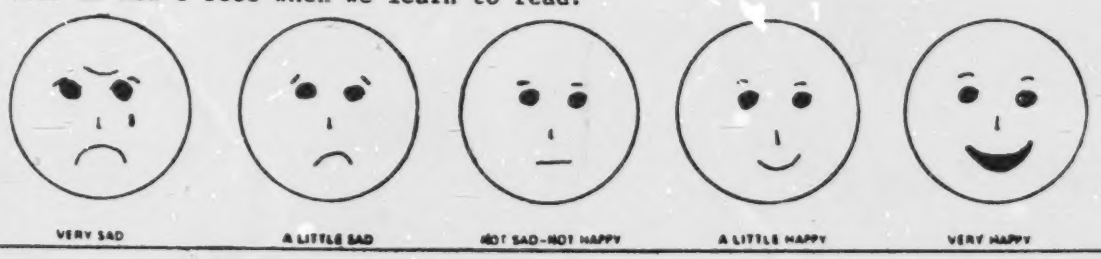
II

2. This is how I feel about my schoolwork.



III

3. This is how I feel when we learn to read.

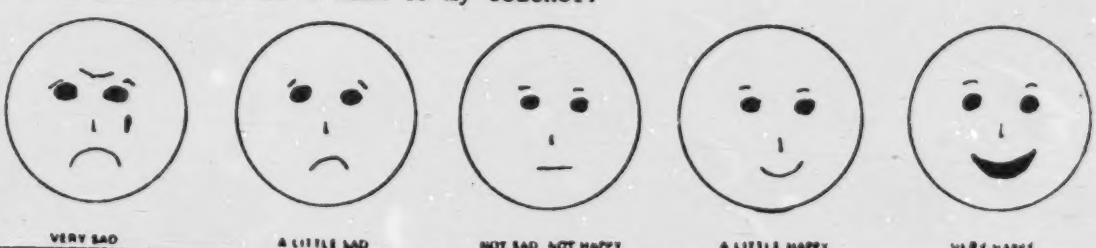


IV

4. This is how I feel when I take a test.

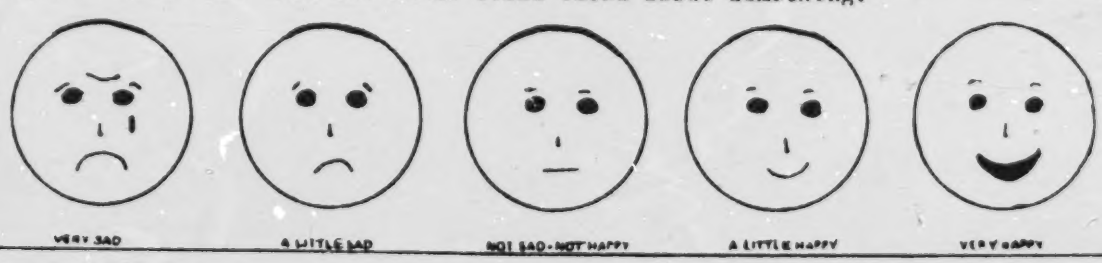
III

5. I feel like this when I talk to my teacher.



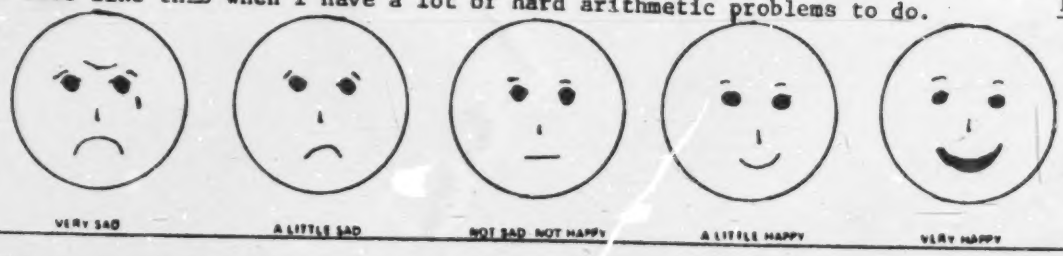
I

6. This is how I feel when our whole class talks about something.



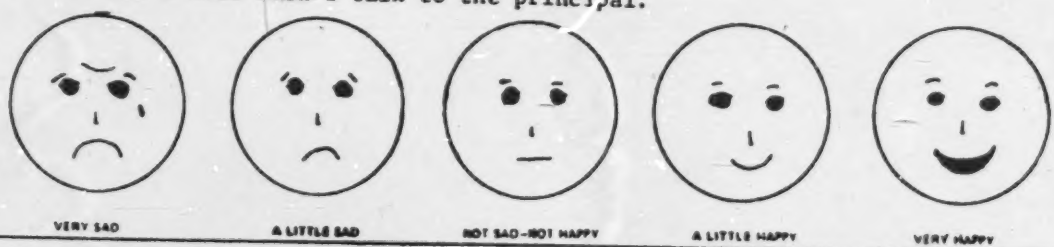
IV

7. I feel like this when I have a lot of hard arithmetic problems to do. Factor



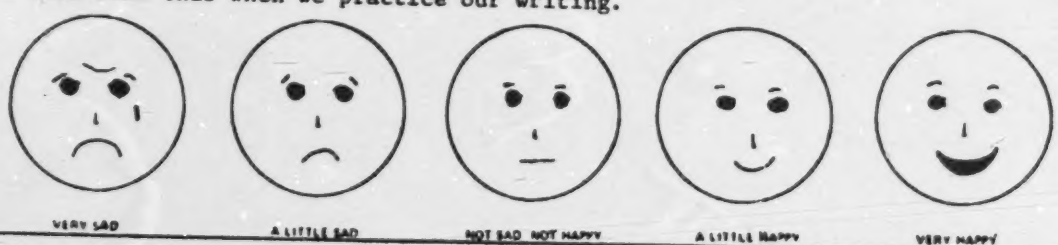
III

8. This is how I feel when I talk to the principal.



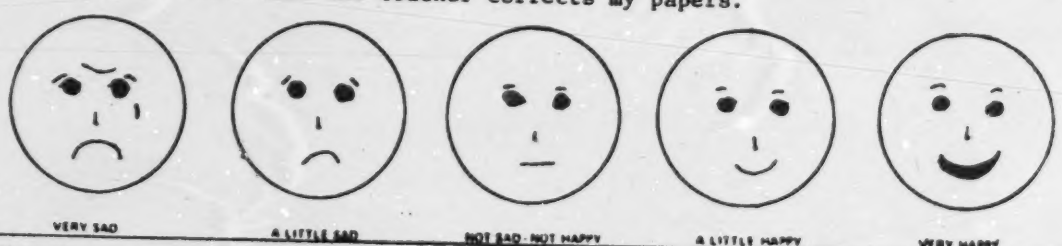
I

9. I feel like this when we practice our writing.



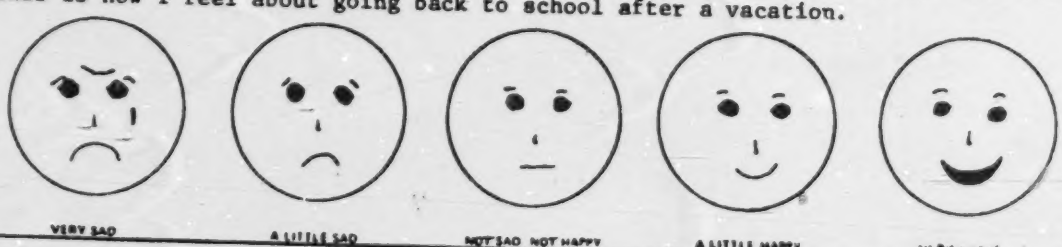
IV

10. This is how I feel when the teacher corrects my papers.



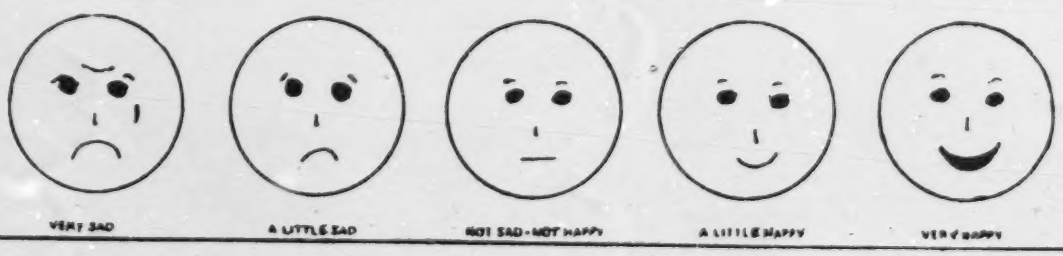
V

11. This is how I feel about going back to school after a vacation.



II

12. I feel this way when the teacher tells me to find the answers to my own questions.

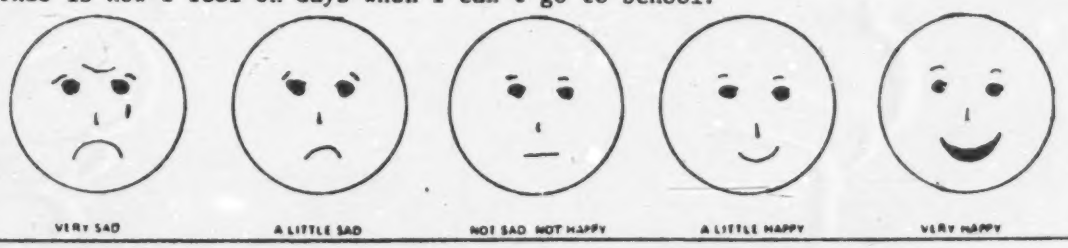


III

13. This is how I feel when I try to learn something by reading a book. Factor

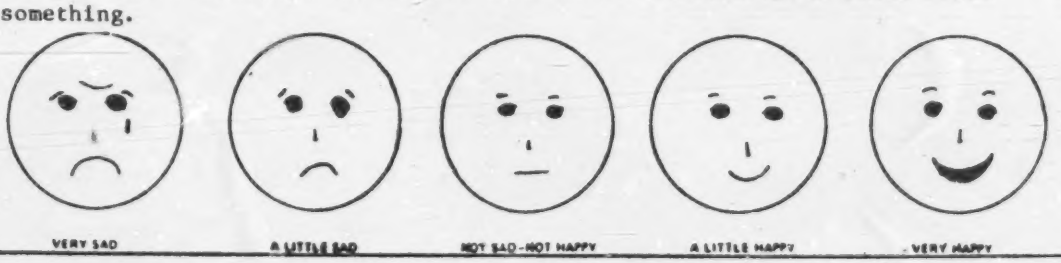
IV

14. This is how I feel on days when I can't go to school.



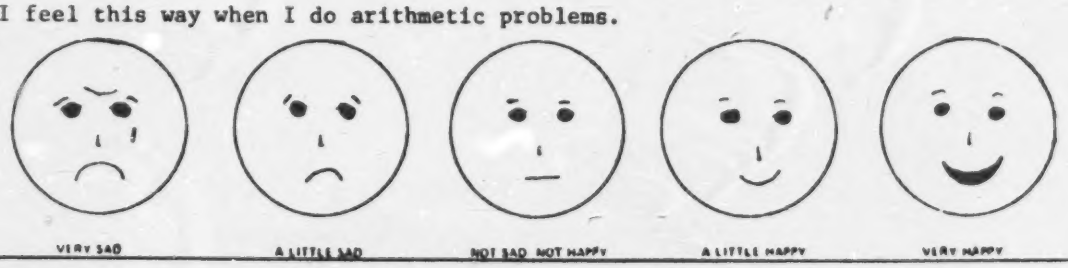
II

15. This is how I feel when the teacher asks me to tell the whole class about something.



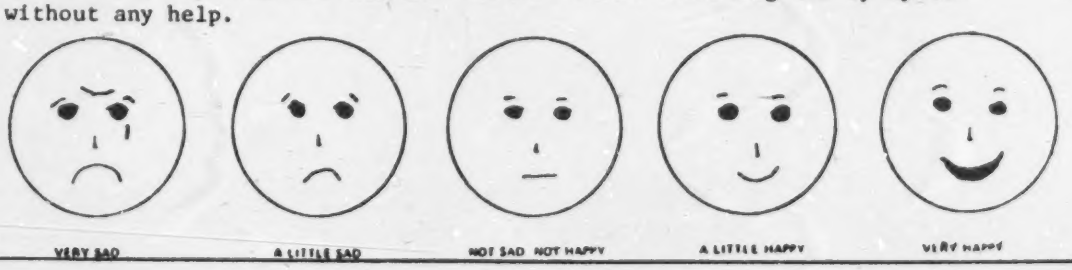
I

16. I feel this way when I do arithmetic problems.



III

17. I feel this way when the teacher tells me to do something all by myself without any help.



III

18. This is how I feel when we learn about science.

IV

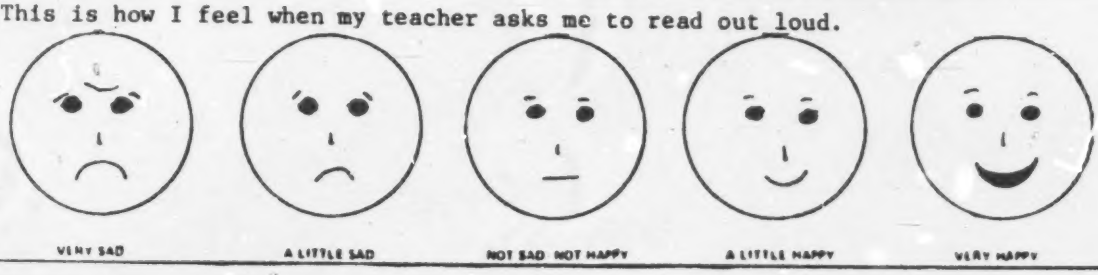
Factor

19. This is how I feel when I have a lot of schoolwork to do. — III

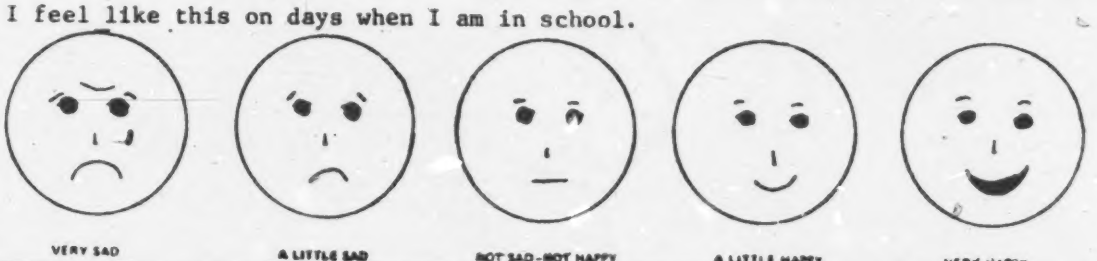
20. I feel like this when I find out how I am doing in school. — V

21. This is how I feel about school rules. — II

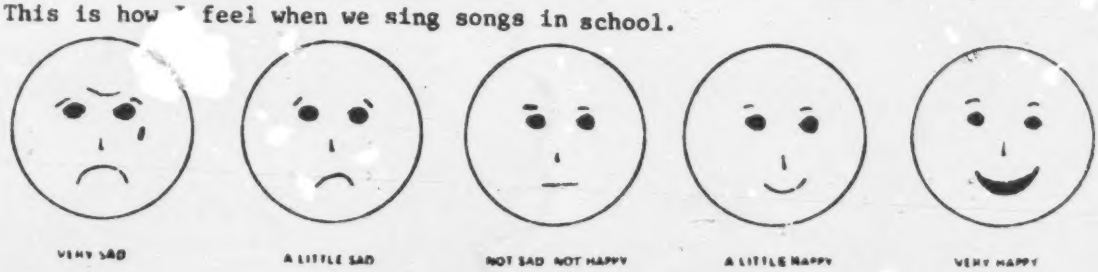
22. This is how I feel when my teacher asks me to read out loud. — IV



23. I feel like this on days when I am in school. — II

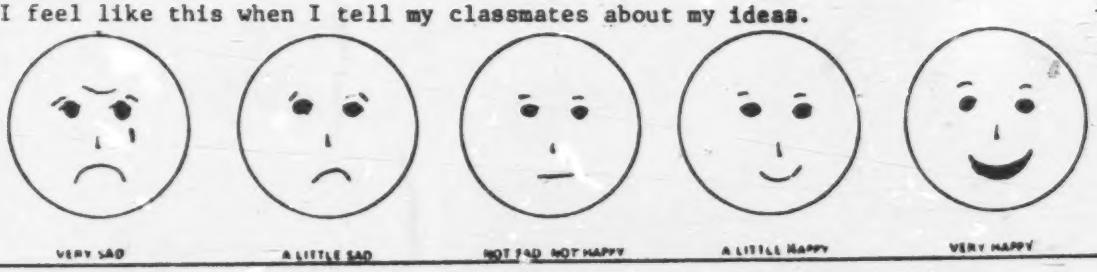


24. This is how I feel when we sing songs in school. — IV



Factor

25. I feel like this when I tell my classmates about my ideas.



I

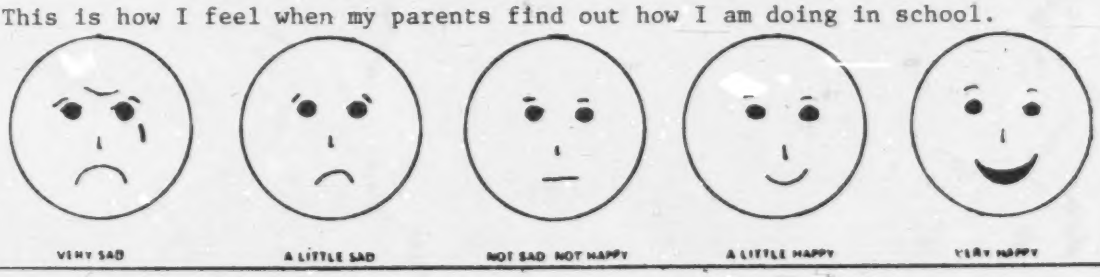
26. This is how I would feel if I could go to school the rest of my life.

II

27. I feel this way when we learn arithmetic.

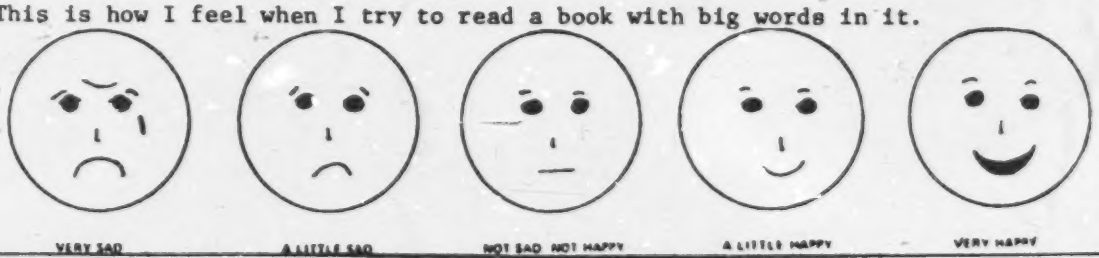
III

28. This is how I feel when my parents find out how I am doing in school.



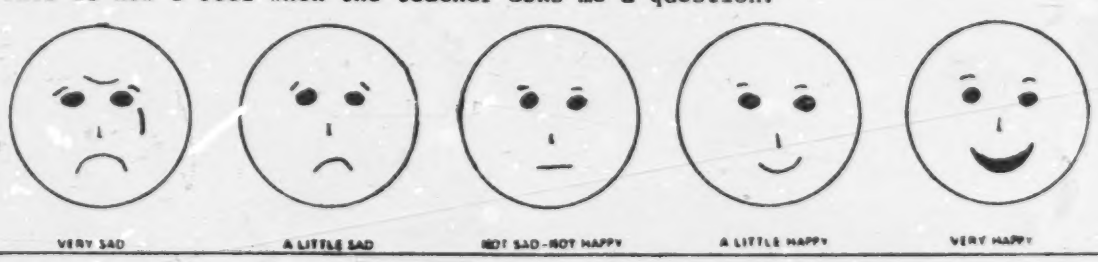
V

29. This is how I feel when I try to read a book with big words in it.



III

30. This is how I feel when the teacher asks me a question.

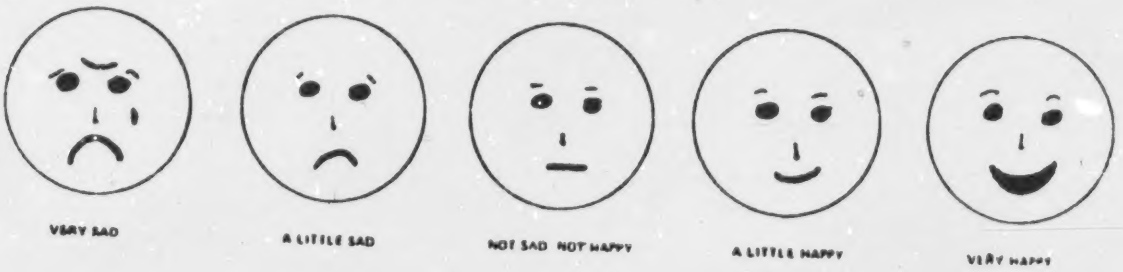


I

Appendix A (cont'd)

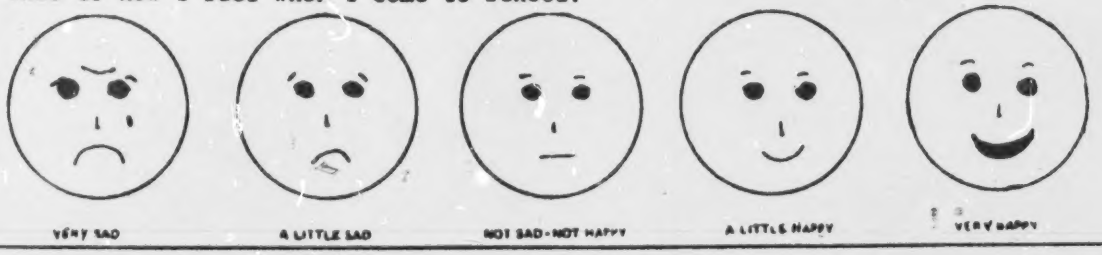
School Attitude Scale for Beginning 1st Graders

This is how I feel when I go to the zoo.

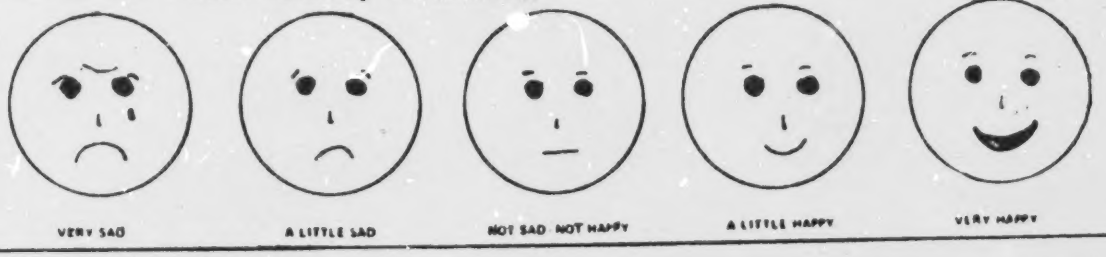


This is how I feel when I go to the doctor.

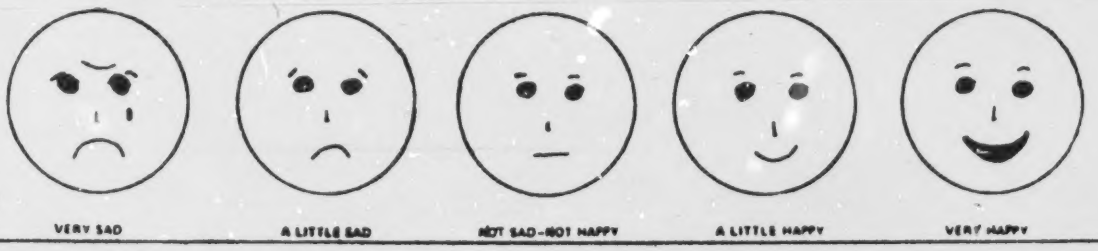
1. This is how I feel when I come to school.



2. This is how I feel about my schoolwork.



3. This is how I feel when we learn to read.

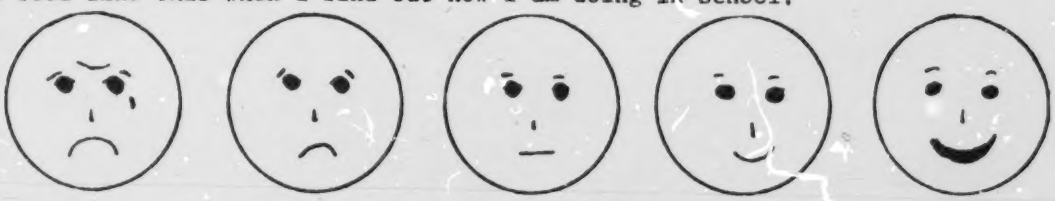


4. This is how I feel when we sing songs in school.

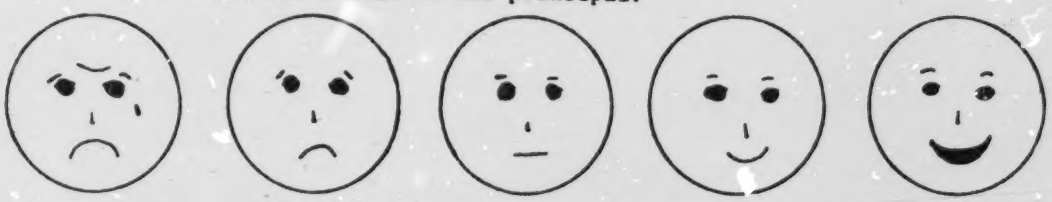
5. I feel like this when I talk to my teacher.

6. This is how I feel when our whole class talks about something.

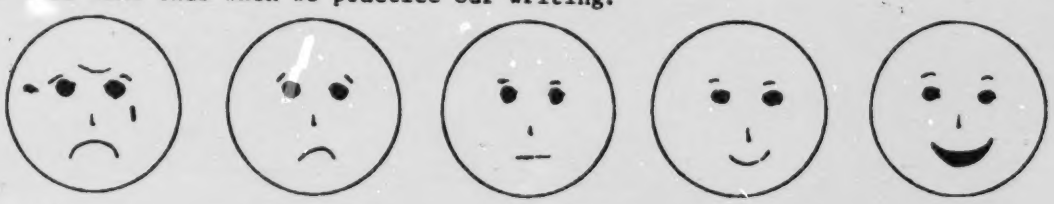
7. I feel like this when I find out how I am doing in school.



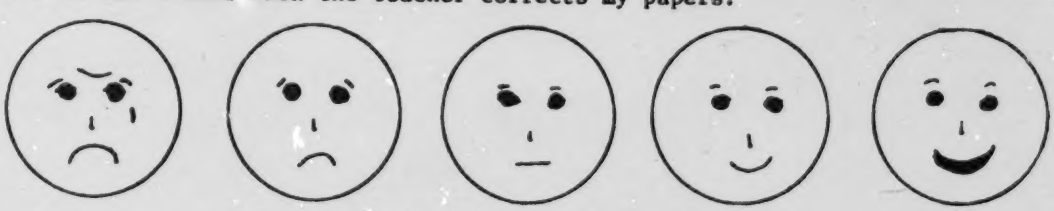
8. This is how I feel when I talk to the principal.



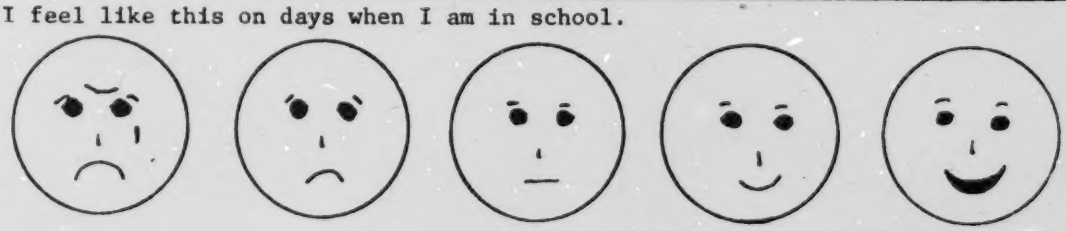
9. I feel like this when we practice our writing.



10. This is how I feel when the teacher corrects my papers.



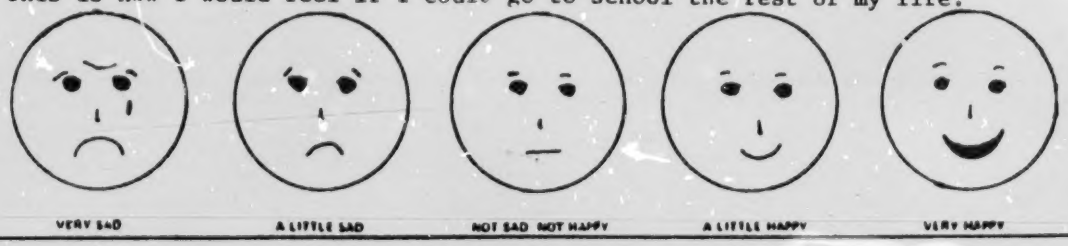
11. I feel like this on days when I am in school.



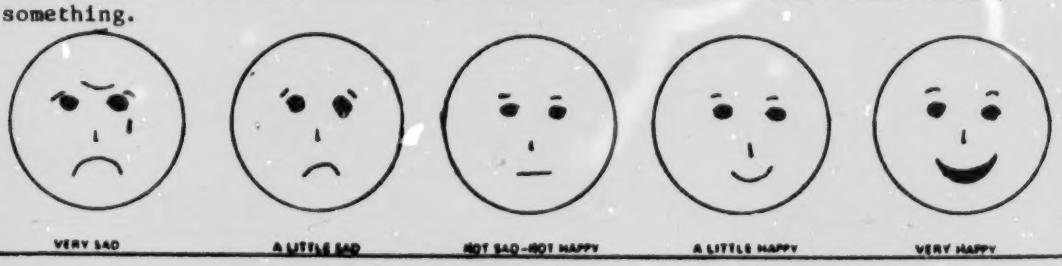
12. This is how I feel about school rules.

13. I feel like this when I tell my classmates about my ideas.

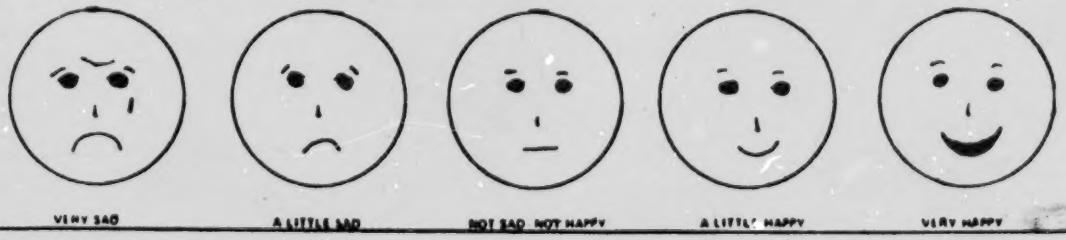
14. This is how I would feel if I could go to school the rest of my life.



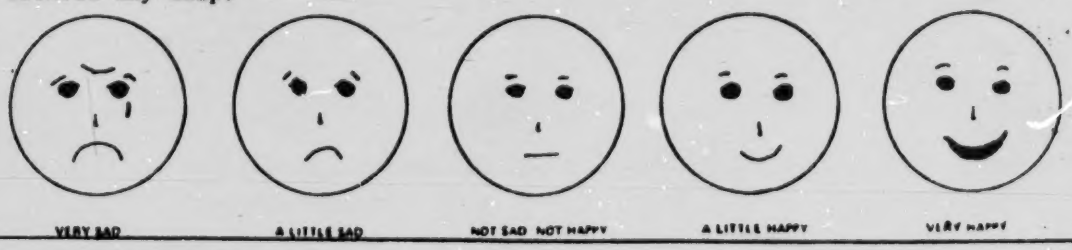
15. This is how I feel when the teacher asks me to tell the whole class about something.



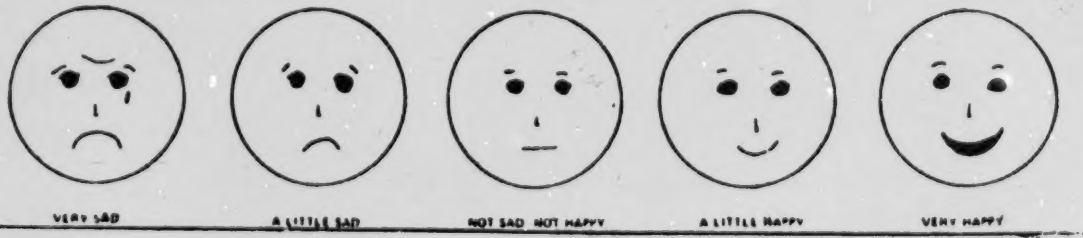
16. I feel this way when we learn arithmetic.



17. I feel this way when the teacher tells me to do something all by myself without any help.



18. This is how I feel when the teacher asks me a question.



ED107683

Pennsylvania Educational Quality Assessment
Attitude Toward School Instrument *

DIRECTIONS: Blacken the space which best tells how you feel.

I cannot say
It's very important
It's quite important
It's somewhat important
It's not important

HOW IMPORTANT IS IT TO YOU TO:

1.	Do your homework well?	(N)	(S)	(Q)	(V)	(?)
2.	Recite or report before the class? . . .	(N)	(S)	(Q)	(V)	(?)
3.	Do practice problems or drill?	(N)	(S)	(Q)	(V)	(?)
4.	Write a report on an assigned subject? .	(N)	(S)	(Q)	(V)	(?)
5.	Prepare for an exam or tests?.	(N)	(S)	(Q)	(V)	(?)
6.	Read a book on a brand new subject?. . .	(N)	(S)	(Q)	(V)	(?)
7.	Join a group to learn something new? . .	(N)	(S)	(Q)	(V)	(?)

Almost never
Seldom
Sometimes
Often
Almost always

8.	I like to begin a new topic in class . .	(A)	(B)	(C)	(D)	(E)
9.	I like to discuss my schoolwork with a friend	(A)	(B)	(C)	(D)	(E)
10.	I like to talk with my teachers about my ideas	(A)	(B)	(C)	(D)	(E)
11.	I like school.	(A)	(B)	(C)	(D)	(E)
12.	Teachers help us when we need help . . .	(A)	(B)	(C)	(D)	(E)
13.	School is a good place to make friends .	(A)	(B)	(C)	(D)	(E)
14.	Our school building is nice to be in . .	(A)	(B)	(C)	(D)	(E)
15.	My teacher uses my ideas	(A)	(B)	(C)	(D)	(E)
16.	I like to get back to school after vacation	(A)	(B)	(C)	(D)	(E)
17.	Our classes take field trips	(A)	(B)	(C)	(D)	(E)

TM 004 497

*For items 1-7, item scores were the following: It's very important = 5; It's quite important = 4; It's somewhat important = 3; I cannot say = 2; It's not important = 1. For items 8-17, item scores were the following: Almost always = 5; Often = 4; Sometimes = 3; Seldom = 2; Almost never = 1. Scores on the instrument could range from 17 to 85.

ED107684

TM 004 498

Appendix A (cont'd)

School Attitude Scale (Grades 4-6)*

DIRECTIONS: Circle the group of words which best tells how you feel.

1. How do you feel about coming to school?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

2. How do you feel about doing school work?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

3. How do you feel about reading?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

4. How do you feel when you take a test?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

5. How do you feel about talking to your teacher?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

6. How do you feel about discussing things with your whole class?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

7. How do you feel about trying to solve hard arithmetic problems?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

8. How do you feel about talking to your principal?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

9. How do you feel about practicing your handwriting?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

10. How do you feel when your teacher corrects your papers?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

*Scored similarly to the Primary School Attitude Scale. Scores on the instrument could range from 30 to 150.

DIRECTIONS: Circle the group of words which best tells how you feel.

11. How do you feel when you go back to school after a vacation?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

12. How do you feel when your teacher tells you to find the answers to your own questions?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

13. How do you feel about trying to learn something by reading a book?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

14. How do you feel on days when you can't go to school?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

15. How do you feel about speaking to your whole class?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

16. How do you feel about doing arithmetic problems?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

17. How do you feel when your teacher tells you to do something all by yourself?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

18. How do you feel about learning science?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

19. How do you feel when you have a lot of school work to do?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

20. How do you feel when you find out how you are doing in school?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

DIRECTIONS: Circle the group of words which best tells how you feel.

21. How do you feel about school rules?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

22. How do you feel about reading out loud?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

23. How do you feel when you are in school?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

24. How do you feel about singing songs in school?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

25. How do you feel about telling your classmates about your ideas?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

26. How would you feel about going to school the rest of your life?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

27. How do you feel about learning arithmetic?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

28. How do you feel when your parents find out how you are doing in school?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

29. How do you feel about trying to read a book with difficult words in it?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

30. How do you feel when your teacher asks you a question?

Don't like it at all	Don't like it much	Not sure	It's O.K.	Like it a lot

ED107685

Acceptance of Others

Number Form

Directions: Distribute papers. Be sure each child has a list of names with each name followed by the numbers one to five.

Then read the following to the students except the material in parenthesis.

Today I want you to think about each other. ...If you wanted to do something which is fun, which classmates would you like to have join you?

On your paper are the names of all the students in this room, with five numbers after each name. Read a name and then decide how much fun it would be to do something with that person. If you think it would be a lot of fun to do something with the person, circle the number "5" across from the person's name. If you think it would not be much fun to do something with the person, circle the number "1" across from his or her name. If you think it might be fun to do something with the person, decide whether to circle the "2", the "3", or the "4" across from his or her name. The more fun you think it would be to do something with a person, the higher the number you should circle across from his or her name.

Suppose that Lori Partridge from The Partridge Family is in this class. Which number would you circle across from her name?

(Accept responses from class -- ask children why they would circle that number).

Are there any questions about what we are going to do?

(Answer any procedural questions)

All right. Read the name of the first person on your paper and circle a number across from the person's name. Remember, the number you circle across from a name should show how much fun you think it would be to do something with that person. Continue through the list of your classmates until you have circled one number across from each name, including your own.

TM 004 499

Appendix A (cont'd)

Acceptance of Others

NOONE, NANCY ---------- 1 2 3 4 5

OPPENHEIMER, OPIE ---------- 1 2 3 4 5

PRINKLE, PENNY ---------- 1 2 3 4 5

QUIGLEY, QUEENY ---------- 1 2 3 4 5

ROE, RALPH ---------- 1 2 3 4 5

SHINGLE, SHELDON ---------- 1 2 3 4 5

TUCKER, TARA ---------- 1 2 3 4 5

UPPENHEIM, URASIS ---------- 1 2 3 4 5

VOGELSONG, VERNON ---------- 1 2 3 4 5

WAGNER, WALLY ---------- 1 2 3 4 5

YOCUM, YALBERTON ---------- 1 2 3 4 5

ZEARFOSS, ZACHARIAH ---------- 1 2 3 4 5

ED107686

Acceptance of Ideas of Others

Number Form

Directions: Distribute papers. Be sure each child has a list of names with each name followed by the numbers one to five.

Then, read the following to the students except the material in parenthesis.

Now, I want you to think about each other again, but this time I want you to think about peoples' ideas. Print the word "ideas" at the top of your paper.

If you were trying to think about how to do something, what kind of ideas would the other children in the class have? Some people always seem to have good ideas and others hardly ever have good ideas.

On your paper are the names of all the students in this room, with five numbers after each name. Read a name and then decide how many points you would give for that person's ideas. If you think someone always has good ideas, circle the number "5" across from that person's name. If someone hardly ever has good ideas, circle the number "1" across from his or her name. If a person sometimes has good ideas, decide whether to give the person's ideas two, three, or four points. The better a person's ideas are, the higher the number you should circle across from his or her name.

Suppose that Danny Partridge from The Partridge Family is in this class. How many points would you circle across from his name?

(Accept responses from class -- ask children to tell why they would circle that number of points).

Are there any questions about what we are going to do?

(Answer any procedural questions).

All right. Read the name of the first person on your paper and circle a number across from the person's name. Remember, the number you circle across from a person's name should show how many points you would give his or her ideas. Continue through the list of your classmates until you have circled one number across from each name, including your own.

TM 004 500

Appendix A (cont'd)

Acceptance of Ideas of Others

ADDLETON, ANGIE ----------	1	2	3	4	5
BEAMER, BARNIE ----------	1	2	3	4	5
CHANGLER, CHUCK ----------	1	2	3	4	5
DILLAN, DARRAN ----------	1	2	3	4	5
ENGLEHART, EDGAR ----------	1	2	3	4	5
FARABAUGH, FRANCIS ----------	1	2	3	4	5
GARNETT, GALE ----------	1	2	3	4	5
HOLLY, HEATHER ----------	1	2	3	4	5
IDLEMAN, IRIS ----------	1	2	3	4	5
JONES, JAMIE ----------	1	2	3	4	5
KINKLEY, KATHY ----------	1	2	3	4	5
LOCKMAN, LORAINE ----------	1	2	3	4	5
McCARTNEY, MICHAEL ----------	1	2	3	4	5

Acceptance of Ideas of Others

Star Form

Directions: Distribute papers. Be sure each child has a list of names with stars and a crayon.

Then, read the following to the students except the material in parenthesis.

Today I want you to think about each other. This is not to tell how much you like each other. We all like some people more than others. We want to think about people's ideas.

If you were trying to think about how to do something, what kind of ideas would the other children in the class have? Some children always seem to have good ideas and others hardly ever have good ideas.

On your paper are the names of all the boys and girls in this room, with five stars after each name. I will read each name for you, and you will decide how many stars you would give for that person's ideas. If you think someone always has good ideas, color in five stars. If that person hardly ever has good ideas, color only one star. If a person sometimes has good ideas, decide whether to color two, three or four stars. The better their ideas are, the more stars you color in.

Suppose that Big Bird from Sesame Street is in this class. How many stars would you color in after his name?

(Accept responses from class -- ask children to tell why they would color in that many stars.)

Are there any questions about what we are going to do?

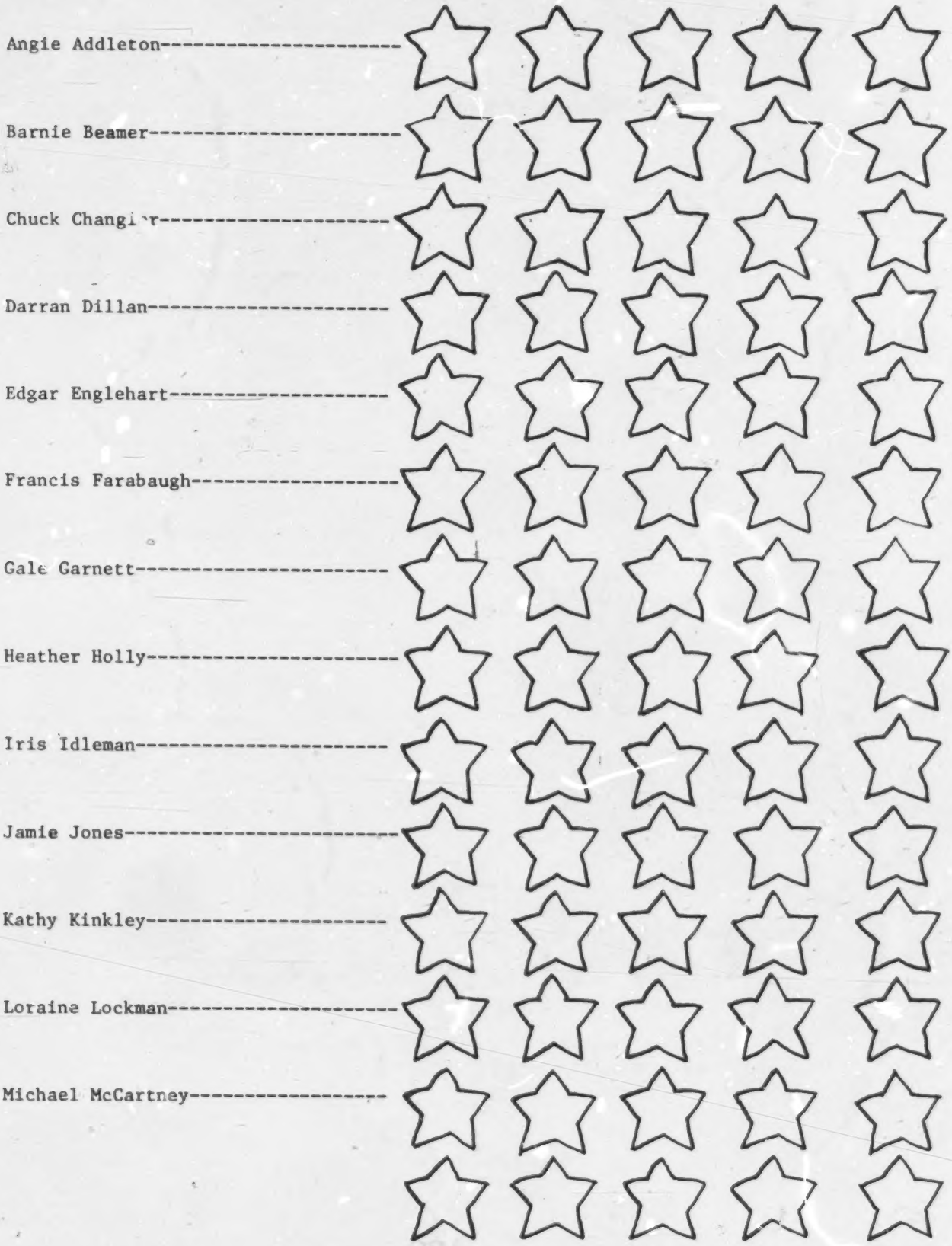
(Answer any procedural questions.)

(Read first name and say) "Color in the stars you want to give _____ for his ideas."

(Continue through list, allowing time after each name to complete coloring.)

Appendix A (cont'd)

Acceptance of Ideas of Others



ED107687

Appendix B

Opinionnaire on Attitudes Toward Education

Below are a number of statements about which teachers may have different opinions. Please indicate what your opinion of each statement is by circling the appropriate number after each statement.

Factor			Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
I	1.	Boys and girls who are delinquent are, when all is said and done, basically good.	1	2	3	4	5
I	2.	If boys and girls are to do an adequate job of learning in school, their needs for love must be met.	1	2	3	4	5
II	* 3.	It is appropriate for teachers to require an additional assignment from a pupil who misbehaves in class	1	2	3	4	5
I	4.	How a student feels about what he learns is as important as what he learns	1	2	3	4	5
II	* 5.	The way to handle a pupil who tells lies is to threaten to punish him.	1	2	3	4	5
II	* 6.	The high school pupil who is not interested in having dates should be commended.	1	2	3	4	5
I	7.	Education has failed unless it has helped boys and girls to understand and to express their own feelings and experiences.	1	2	3	4	5
II	* 8.	You should tell a child who masturbates that it leads to ruined health.	1	2	3	4	5
I	9.	The classroom experiences that are the most helpful to boys and girls are the ones wherein they can express themselves creatively.	1	2	3	4	5
II	10.	All children should be encouraged to aim at the highest academic goals.	1	2	3	4	5
II	11.	The child who bites his nails should be shamed. .	1	2	3	4	5
II	12.	Children outgrow early emotional experiences as they do shoes and clothes	1	2	3	4	5
I	13.	What boys and girls become as adults is more closely related to the experiences they have with each other than it is to mastery of specific subject matter	1	2	3	4	5

TM 004 201

Factor			Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
I	14.	It is more important for students to learn to work together cooperatively than it is for them to learn how to compete.	1	2	3	4	5
II	*15.	Some pupils are just naturally stubborn	1	2	3	4	5
I	16.	Students should be permitted to disagree with the teacher	1	2	3	4	5
II	*17.	It is better for a girl to be shy and timid than "boy crazy".	1	2	3	4	5
I	18.	Boys and girls should learn that most of life's problems have several possible solutions and not just one "correct" one.	1	2	3	4	5
II	*19.	The first signs of delinquency in a pupil should be received by a tightening of discipline and more restrictions	1	2	3	4	5
II	*20.	The newer methods of education tend to standardize children's behavior	1	2	3	4	5
I	21.	Most boys and girls who present extreme cases of "problem behavior" are doing the best they can to get along with other people	1	2	3	4	5
II	*22.	An activity to be educationally valuable should train reasoning and memory in general	1	2	3	4	5
I	23.	It is more important for a child to have faith in himself than it is for him to be obedient. . . .	1	2	3	4	5
I	24.	Being grouped according to ability damages the self-confidence of many boys and girls.	1	2	3	4	5
II	*25.	Criticism of children by teachers is more effective for obtaining the desired behavior than criticism of children by others of their own age	1	2	3	4	5
I	26.	All questions a student asks should be recognized and considered	1	2	3	4	5
II	*27.	The pupil who isn't making good grades should be told to study harder	1	2	3	4	5
II	*28.	Children should not be permitted to talk without the permission of the teacher	1	2	3	4	5

Factor			Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
I	29.	A student who will not do his work should be helped in every way possible.	1	2	3	4	5
II	30.	Boys and girls in the elementary school should be promoted regardless of whether they have completed the work for their grade or not	1	2	3	4	5
II	*31.	The teacher should lower grades for misconduct in class.	1	2	3	4	5
I	32.	A teacher should permit a great deal of latitude in the way he permits boys and girls to address him.	1	2	3	4	5
II	*33.	It is a good idea to tell a pupil that he can succeed in any type of work if he works hard. . . .	1	2	3	4	5
I	34.	Students will tolerate errors and even occasional injustices in a teacher who, they feel, likes and understands them.	1	2	3	4	5
I	35.	A teacher should accept the deficiencies and shortcomings of a student, as well as his good points. .	1	2	3	4	5
II	*36.	Each time a pupil lies his punishment should be increased	1	2	3	4	5
I	37.	Boys and girls can learn proper discipline only if they are given sufficient freedom.	1	2	3	4	5
II	*38.	If a teacher keeps school conditions exactly the same and gives all pupils an equal opportunity to respond, he has done all he can do	1	2	3	4	5
II	*39.	If a child constantly performs for attention, the teacher should see to it that he gets no attention.	1	2	3	4	5
II	*40.	Dishonesty is a more serious personality characteristic than unsocialness	1	2	3	4	5
I	41.	A great deal of misbehavior problem behavior results from fear and guilt	1	2	3	4	5
II	*42.	The teacher's first responsibility in all cases of misconduct is to locate and punish the offender.	1	2	3	4	5
I	43.	It is better for boys and girls to talk about the things that bother them than to try to forget them.	1	2	3	4	5
II	*44.	Most pupils need some of the natural meanness taken out of them	1	2	3	4	5

Factor			Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
I	45.	It is more important for boys and girls to be liked and accepted by their friends than it is for them to get along with their teachers.	1	2	3	4	5
I	46.	Teachers should answer children's questions about sex frankly and, if possible, without show of embarrassment	1	2	3	4	5
II	* 47.	When a pupil obeys all the rules of the school, one can be sure he is developing moral character. . . .	1	2	3	4	5
I	48.	When a teacher is told something in confidence by a child, he should keep the matter just as confidential as though it were entrusted to him by an adult	1	2	3	4	5
II	* 49.	Since a person memorizes best during childhood, that period should be regarded as a time to store up facts for later use.	1	2	3	4	5
I	50.	Students should play a very active part in formulating the rules for the classroom and the school	1	2	3	4	5

* Designates reversed items. For these items a response of Strongly Disagree was scored 5, Disagree = 4, Undecided = 3, Agree = 2, Strongly Agree = 1. For all other items, Strongly Agree = 5, Agree = 4, etc. Scores on the instrument could range from 50 to 250.

ED107688

Appendix B (cont'd)

Satisfaction With Teaching Questionnaire

Below are a number of statements about which teachers may have different opinions. Please indicate what your opinion of each statement is by circling the appropriate number after each statement.

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1.	Teaching is about the best job that I can think of.	1	2	3	4	5
2.	There are a lot of advantages to teaching	1	2	3	4	5
*3.	I don't care for my work as a teacher	1	2	3	4	5
4.	Teaching would be a wonderful occupation for anyone	1	2	3	4	5
*5.	Teaching may be all right for some people but not for me.	1	2	3	4	5
*6.	I am not convinced of the importance of teaching as a permanent career	1	2	3	4	5
*7.	Teaching, as a career, is not worth the sacrifice of going to college, the long hours of work and the low pay	1	2	3	4	5
8.	I really enjoy teaching	1	2	3	4	5
9.	Teaching is as good a job as any.	1	2	3	4	5
10.	There are more advantages than disadvantages to teaching as a career.	1	2	3	4	5
11.	I would be willing to take any job related to teaching.	1	2	3	4	5

*Designates reversed items. For these items a response of Strongly Disagree was scored 5, Disagree = 4, Undecided = 3, Agree = 2, Strongly Agree = 1. For all other items, Strongly Agree = 5, Agree = 4, etc. Scores on the instrument could range from 11 to 55.

TM 004 502

ED107689

Appendix B (cont'd)

Philosophy of Glasser Questionnaire

DIRECTIONS

The opinionnaire has 15 statements. Below each statement are five groups of words to show how you feel about the statement. After carefully reading each statement, circle the group of words which best show how you feel about it. Even though some of the statements may look exactly alike, there are differences. Please be sure to circle one group of words for each and every one of the following 15 statements.

Factor

II *1. It is necessary for elementary school pupils to memorize many facts and ideas, even if they do not understand how these things are important to their lives.

Completely Agree | Somewhat Agree | Cannot Decide | Somewhat Disagree | Completely Disagree

II 2. Asking elementary school pupils to memorize many facts and ideas without understanding how these things are important to their lives is harmful to the pupils.

Completely Agree | Somewhat Agree | Cannot Decide | Somewhat Disagree | Completely Disagree

II *3. It is more valuable for elementary school pupils to spend class time storing up facts for future use than it is for them to think about and discuss issues which have more than one possible solution.

Completely Agree | Somewhat Agree | Cannot Decide | Somewhat Disagree | Completely Disagree

II *4. When an elementary school pupil misbehaves in class, it is necessary for the teacher to use such types of punishment as scolding, giving extra work, standing in the corner, and keeping the child in.

Completely Agree | Somewhat Agree | Cannot Decide | Somewhat Disagree | Completely Disagree

II 5. Punishing elementary school pupils by scolding, giving extra work, standing in the corner, and keeping the child in is harmful to the pupils.

Completely Agree | Somewhat Agree | Cannot Decide | Somewhat Disagree | Completely Disagree

I 6. When an elementary school child misbehaves in class, it is valuable for the child to help decide what to do about his misbehavior.

Completely Agree | Somewhat Agree | Cannot Decide | Somewhat Disagree | Completely Disagree

TM 004 203

Factor						
II	*7.	Giving elementary school children grades (A, B, C, D, E) on their report cards is necessary.				
		Completely Agree	Somewhat Agree	Cannot Decide	Somewhat Disagree	Completely Disagree
II	8.	Giving elementary school children grades (A, B, C, D, E) on their report cards is harmful to the pupils.				
		Completely Agree	Somewhat Agree	Cannot Decide	Somewhat Disagree	Completely Disagree
II	9.	There are other ways of reporting elementary school pupils' progress to their parents which are more valuable than report card grades.				
		Completely Agree	Somewhat Agree	Cannot Decide	Somewhat Disagree	Completely Disagree
I	10.	In today's world, if elementary school pupils are to learn to the best of their abilities, it is necessary for teachers to deal with their pupils' needs for love and self-worth.				
		Completely Agree	Somewhat Agree	Cannot Decide	Somewhat Disagree	Completely Disagree
I	*11.	It will be harmful to elementary school pupils' learning if teachers try to deal with their pupils' needs for love and self-worth.				
		Completely Agree	Somewhat Agree	Cannot Decide	Somewhat Disagree	Completely Disagree
I	12.	It is valuable for elementary school teachers and pupils to take part in open and honest class discussions in which pupils know that their opinions are as important as their teachers' opinions.				
		Completely Agree	Somewhat Agree	Cannot Decide	Somewhat Disagree	Completely Disagree
I	*13.	Since elementary school pupils are too young to solve their own problems, it is not necessary for teachers to involve their pupils in solving problems which occur in their classes and school.				
		Completely Agree	Somewhat Agree	Cannot Decide	Somewhat Disagree	Completely Disagree
I	*14.	Since elementary school pupils are too young to solve their own problems, it will be harmful for teachers to involve their pupils in solving problems which occur in their classes and school.				
		Completely Agree	Somewhat Agree	Cannot Decide	Somewhat Disagree	Completely Disagree
I	15.	It is valuable for elementary school pupils to join with their teachers in working out solutions to problems which occur in their classes and school.				
		Completely Agree	Somewhat Agree	Cannot Decide	Somewhat Disagree	Completely Disagree

*Designates reversed items. For these items a response of Completely Disagree was scored 5, Somewhat Disagree = 4, Cannot Decide = 3, Somewhat Agree = 2, Completely Agree = 1. For all other items, Completely Agree = 5, Somewhat Agree = 4, etc. Scores on the instrument could range from 15 to 75.

Appendix C

Summary of Categories for the Expanded Category System

Category 1 -- Accepts Student Feelings

1a -- Acknowledges feelings. The teacher simply acknowledges the presence of some feeling in the classroom; she may identify the feeling by name.

1c -- Clarifies feelings. The teacher attempts to relate the feeling he observes to a probable cause.

1r -- Refers to similar feelings of others. The teacher indicates that the feeling he observes is natural or normal by referring to similar feelings that he has, or that people in general have, in like circumstances.

Category 2 -- Praises

2w -- Praises with no criteria. The teacher tells the student he is right or that what he has done is good, but gives no reason for the positive evaluation.

2P -- Praises with public criteria. The teacher praises the student and gives a reason for the positive evaluation that is publicly verifiable and acceptable. An accepted authority, like the dictionary, may be used as the criterion for evaluating factual matters.

2p -- Praises with private criteria. The teacher praises the student and explains that the praise is based on her private (nonauthoritative) standards or opinions. Statements in this subcategory communicate the teacher's preferences.

Category 3 -- Accepts Student Ideas

3a -- Acknowledges ideas. The teacher acknowledges a student contribution by simple reflection or a word such as "okay." No evaluation of the student's contribution is included in statements in this subcategory.

3c -- Clarifies ideas. The teacher goes beyond simple acknowledgment of the student's contribution by restating the student's idea or speculating on its implications.

3s -- Summarizes ideas. The teacher acknowledges contributions of several students by enumerating them or organizing them into a coherent sequence.

Category 4 -- Asks Questions

4f -- Asks factual questions. The teacher asks for a simple factual response. Questions in this category require recall rather than problem-solving or opinion-giving.

4c -- Asks convergent questions. The teacher asks the student to compare or contrast, to relate two or more things in a significant manner, or to follow some formal procedure for solving problems, such as a mathematical formula.

4d -- Asks divergent questions. The teacher asks the child to predict, to develop hypotheses, or to speculate on outcomes of actions in a hypothetical situation that does not permit evaluation of student responses as right or wrong.

4e -- Asks evaluative questions. The teacher asks students for their evaluation of an idea or an event as better or worse, more or less appropriate, and the like. Evaluation of student response as right or wrong is precluded by the nature of the question.

Category 5 -- Lectures

5f -- Factual lecture. The teacher communicates factual information or subject-matter content.

5m -- Motivational lecture. The teacher attempts to communicate enthusiasm or excitement about subject matter to children or in some other way arouse interest through the use of lecture statements.

5o -- Orientation lecture. The teacher describes the procedure for approaching subject matter or presents some framework for what the class has been doing or will do.

5p -- Personal opinion lecture. The teacher provides personal opinions or evaluations of ideas or procedures.

Category 6 -- Gives Directions

6c -- Gives cognitive directions. The teacher asks children to do a task primarily cognitive rather than overtly physical, such as writing the answer to a problem on the board.

6m -- Gives managerial directions. The teacher directs the student or students to perform a physical maneuver, such as moving chairs.

Category 7 -- Criticizes

7w -- Criticizes with no criteria. The teacher criticizes with no explanation of the reason for the criticism.

7P -- Criticizes with public criteria. The teacher criticizes a student and explains the criticism in terms of public standards for evaluation.

7p -- Criticizes with private criteria. The teacher criticizes a student and explains the criticism in terms of his personal preferences or aversions.

Category 8 -- Predictable Student Talk

8f -- Factual student talk. The student gives factual information, usually in response to a teacher question classified as 4f.

8c -- Convergent student talk. The student makes a statement involving use of facts in a specified process, such as following a formula or contrasting events, usually in response to a teacher question classified as 4c.

Category 9 -- Unpredictable Student Talk

9d -- Divergent student response. The student speculates or hypothesizes on how things might be (or might have been) under given circumstances, usually in response to a teacher question classified as 4d.

9e -- Evaluative student response. The student gives his evaluation of an idea or event as better or worse, more or less appropriate, etc., usually in response to a teacher question classified as 4e.

9i -- Student-initiated talk. The student makes an unsolicited comment.

Category 10 -- Silence or Confusion

10s -- Silence. There is a period of at least three seconds in which no one is talking.

10c -- Confusion. There is a period of at least three seconds in which more than one person is talking, and it is not possible to hear what a single person is saying.

Appendix C (cont'd)

Summary of Categories for the Reciprocal Category System

Category Number Assigned to Party 1[1]	Description of Verbal Behavior	Category Number Assigned to Party 2[2]
1.	"WARMS" (INFORMALIZES) THE CLIMATE: Tends to open up and/or eliminate the tension of the situation; praises or encourages the action, behavior, comments, ideas and/or contributions of another; jokes that release tension not at the expense of others; accepts and clarifies the feeling tone of another in a friendly manner (feelings may be positive or negative; predicting or recalling the feelings of another are included).	11
2.	ACCEPTS: Accepts the action, behavior, comments, ideas and/or contributions of another; positive reinforcement of these.	12
3.	AMPLIFIES THE CONTRIBUTIONS OF ANOTHER: Asks for clarification of, builds on, and/or develops the action, behavior, comments, ideas and/or contributions of another.	13
4.	ELICITS: Asks a question or requests information about the content subject, or procedure being considered with the intent that another should answer (respond).	14
5.	RESPONDS: Gives direct answer or response to questions or requests for information that are inititated by another; includes answers to one's own questions.	15
6.	INITIATES: Presents facts, information and/or opinion concerning the content, subject, or procedures being considered that are self-initiated; expresses one's own ideas; lectures (includes rhetorical questions--not intended to be answered).	16
7.	DIRECTS: Gives directions, instructions, orders and/or assignments to which another is expected to comply.	17
8.	CORRECTS: Tells another that his answer or behavior is inappropriate or incorrect.	18
9.	"COOLS" (FORMALIZES) THE CLIMATE: Makes statements intended to modify the behavior of another from an inappropriate to an appropriate pattern; may tend to create a certain amount of tension (i.e., bawling out someone, exercising authority in order to gain or maintain control of the situation, rejecting or criticizing the opinion or judgment of another).	19
10.	SILENCE: Pauses, short periods of silence.	
	CONFUSION: Periods of confusion in which communication cannot be understood.	20

[1]Category numbers assigned to Teacher Talk when used in classroom situation.
[2]Category numbers assigned to Student Talk when used in classroom situation.

Appendix D

Table 58--Grade 1-3 Pupil Attitudes

School Attitude Scale (Total Scores)

Source	SS'	df	MS'	F	
Treatment	103.688	1	103.688	2.473	
Grade	833.688	2	416.844	9.942	(p<.005)
Treatment x Grade	2.063	2	1.032	0.025	
Within	2,725.250	65	41.927		
Total	3,664.689	70			

Pictorial Self-Concept Test

Source	SS'	df	MS'	F	
Treatment	3.434	1	3.434	0.621	
Grade	65.879	2	32.940	5.960	(p<.005)
Treatment x Grade	3.238	2	1.619	0.293	
Within	362.688	65	5.580		
Total	435.239	70			

Attitude Toward the Ideas of Others

Source	SS'	df	MS'	F
Treatment	0.249	1	0.249	3.278
Grade	0.041	2	0.021	0.268
Treatment x Grade	0.147	2	0.074	0.963
Within	4.942	65	0.076	
Total	5.379	70		

Table 58--Grade 1-3 Pupil Attitudes (cont'd)

School Attitude Scale
(Factor I--In-School Talking)

Source	SS'	df	MS'	F
Treatment	4.457	1	4.457	2.438
Grade	26.586	2	13.293	7.272 (p<.005)
Treatment x Grade	1.875	2	0.938	0.513
Within	118.820	65	1.828	
Total	151.738	70		

School Attitude Scale
(Factor II--School Climate)

Source	SS'	df	MS'	F
Treatment	14.035	1	14.035	3.510
Grade	90.160	2	45.080	11.273 (p<.005)
Treatment x Grade	1.242	2	0.621	0.155
Within	259.926	65	3.999	
Total	365.363	70		

School Attitude Scale
(Factor III--Difficult Schoolwork)

Source	SS'	df	MS'	F
Treatment	22.375	1	22.375	3.394
Grade	29.125	2	14.563	2.209
Treatment x Grade	8.250	2	4.125	0.626
Within	428.563	65	6.593	
Total	488.313	70		

Table 58--Grade 1-3 Pupil Attitudes (cont'd)

School Attitude Scale
(Factor IV--Verbal Schoolwork)

Source	SS'	df	MS'	F
Treatment	1.430	1	1.430	0.587
Grade	66.629	2	33.315	13.679 (p<.005)
Treatment x Grade	0.176	2	0.088	0.036
Within	158.301	65	2.435	
Total	226.536	70		

School Attitude Scale
(Factor V--Evaluation)

Source	SS'	df	MS'	F
Treatment	0.336	1	0.336	0.332
Grade	15.547	2	7.774	7.688 (p<.005)
Treatment x Grade	6.621	2	3.311	3.274 (p<.05)
Within	65.719	65	1.011	
Total	88.223	70		

Table 59--Grade 4-6 Pupil Attitudes

Pennsylvania Educational Quality Assessment
Attitude Toward School Instrument

Source	SS'	df	MS'	F
Treatment	31.500	1	31.500	1.456
Grade	8.813	2	4.407	0.204
Treatment x Grade	11.000	2	5.500	0.254
Within	1,276.375	59	21.634	
Total	1,327.688	64		

Table 59--Grade 4-6 Pupil Attitudes (cont'd)

School Attitude Scale

Source	SS'	df	MS'	F
Treatment	61.438	1	61.438	1.431
Grade	22.750	2	11.375	0.265
Treatment x Grade	74.813	2	37.407	0.871
Within	2,533.000	59	42.932	
Total	2,692.001	64		

Piers-Harris Children's Self-Concept Scale (Total Scores)

Source	SS'	df	MS'	F	
Treatment	14.000	1	14.000	1.930	
Grade	48.938	2	24.469	3.373	(p<.05)
Treatment x Grade	14.938	2	7.469	1.030	
Within	428.000	59	7.254		
Total	505.876	64			

Attitude Toward the Ideas of Others

Source	SS'	df	MS'	F
Treatment	0.002	1	0.002	0.027
Grade	0.253	2	0.127	2.800
Treatment x Grade	0.240	2	0.120	0.265
Within	2.662	59	0.045	
Total	3.157	64		

Table 59--Grade 4-6 Pupil Attitudes (cont'd)

Attitude Toward Others

Source	SS'	df	MS'	F
Treatment	0.148	1	0.148	2.503
Grade	0.138	2	0.069	1.171
Treatment x Grade	0.290	2	0.145	2.464
Within	3.476	59	0.059	
Total	4.052	64		

Piers-Harris Children's Self-Concept Scale (Factor I--Behavior)

Source	SS'	df	MS'	F
Treatment	2.711	1	2.711	4.063 ($p<.05$)
Grade	2.199	2	1.100	1.648
Treatment x Grade	8.977	2	4.489	6.726 ($p<.025$)
Within	39.371	59	0.667	
Total	53.258	64		

Piers-Harris Children's Self-Concept Scale (Factor II--Intellectual and School Status)

Source	SS'	df	MS'	F
Treatment	1.211	1	1.211	2.044
Grade	5.547	2	2.774	4.680 ($p<.025$)
Treatment x Grade	0.105	2	0.053	0.089
Within	34.961	59	0.593	
Total	41.824	64		

Table 59--Grade 4-6 Pupil Attitudes (cont'd)

Piers-Harris Children's Self-Concept Scale
(Factor III--Physical Appearance and Attributes)

Source	SS'	df	MS'	F
Treatment	0.700	1	0.700	1.261
Grade	5.587	2	2.794	5.030 (p<.025)
Treatment x Grade	0.230	2	0.115	0.207
Within	32.762	59	0.555	
Total	39.279	64		

Piers-Harris Children's Self-Concept
Scale (Factor IV--Anxiety)

Source	SS'	df	MS'	F
Treatment	0.906	1	0.906	2.300
Grade	2.750	2	1.375	3.370 (p<.05)
Treatment x Grade	0.098	2	0.049	0.124
Within	23.250	59	0.394	
Total	27.004	64		

Piers-Harris Children's Self-Concept Scale
(Factor V--Popularity)

Source	SS'	df	MS'	F
Treatment	0.597	1	0.597	1.046
Grade	8.800	2	4.400	7.699 (p<.005)
Treatment x Grade	0.656	2	0.328	0.574
Within	33.723	59	0.572	
Total	43.776	64		

Table 59--Grade 4-6 Pupil Attitudes (cont'd)

Piers-Harris Children's Self-Concept Scale
(Factor VI--Happiness and Satisfaction)

Source	SS'	df	MS'	F
Treatment	0.016	1	0.016	0.054
Grade	1.279	2	0.640	2.206
Treatment x Grade	0.269	2	0.135	0.492
Within	17.096	59	0.290	
Total	18.660	64		

Appendix E

Table 60--Grade 1 Achievement

Word Reading

Source	SS'	df	MS'	F
Treatment	0.1348	1	0.1348	1.881
Within	1.7191	24	0.0716	
Total	1.8538	25		

Paragraph Meaning

Source	SS'	df	MS'	F
Treatment	0.0775	1	0.0775	0.789
Within	2.3598	24	0.0983	
Total	2.4374	25		

Vocabulary

Source	SS'	df	MS'	F
Treatment	0.3081	1	0.3081	1.773
Within	4.1708	24	0.1738	
Total	4.4789	25		

Word Study Skills

Source	SS'	df	MS'	F
Treatment	0.2068	1	0.2068	0.852
Within	5.8254	24	0.2427	
Total	6.0322	25		

Table 61--Grade 2 Achievement

Word Meaning

Source	SS'	df	MS'	F
Treatment	0.0003	1	0.0003	0.013
Within	0.5646	23	0.0245	
Total	0.5649	24		

Paragraph Meaning

Source	SS'	df	MS'	F
Treatment	0.0351	1	0.0351	1.035
Within	0.7791	23	0.0339	
Total	0.8142	24		

Word Study Skills

Source	SS'	df	MS'	F
Treatment	0.0099	1	0.0099	0.024
Within	9.3176	23	0.4051	
Total	9.3275	24		

Table 62--Grade 3-6 Achievement--Verbal Subscales

Word Meaning

Source	SS'	df	MS'	F	
Treatment	0.009	1	0.009	0.149	
Grade	0.567	3	0.189	3.285	($p<.05$)
Treatment x Grade	0.467	3	0.156	2.706	
Within	5.002	87	0.058		
Total	6.045	94			

Table 62--Grade 3-6 Achievement--Verbal Subscales (cont'd)

Paragraph Meaning

Source	SS'	df	MS'	F	
Treatment	0.006	1	0.006	0.079	
Grade	2.056	3	0.685	8.515	(p<.005)
Treatment x Grade	0.292	3	0.097	1.209	
Within	7.002	87	0.081		
Total	9.356	94			

Spelling

Source	SS'	df	MS'	F	
Treatment	0.011	1	0.011	0.185	
Grade	0.635	3	0.212	3.724	(p<.025)
Treatment x Grade	0.450	3	0.150	2.638	
Within	4.941	87	0.057		
Total	6.037	94			

Language

Source	SS'	df	MS'	F	
Treatment	0.256	1	0.256	2.106	
Grade	4.718	3	1.573	12.944	(p<.005)
Treatment x Grade	0.272	3	0.091	0.746	
Within	10.569	87	0.122		
Total	15.815	94			

Table 63--Grade 3-6 Achievement--Arithmetic Subscales

Arithmetic Concepts (3-6)

Source	SS'	df	MS'	F
Treatment	0.317	1	0.317	2.432
Grade	3.786	3	1.262	9.700 (p<.005)
Treatment x Grade	0.415	3	0.138	1.062
Within	10.798	83	0.130	
Total	15.316	90		

Arithmetic Computation (3-6)

Source	SS'	df	MS'	F
Treatment	1.038	1	1.038	7.524 (p<.025)
Grade	2.728	3	0.909	6.592
Treatment x Grade	1.369	3	0.456	3.309 (p<.05)
Within	11.449	83	0.138	
Total	16.584	90		

Arithmetic Applications (4-6)

Source	SS'	df	MS'	F
Treatment	0.349	1	0.349	2.277
Grade	0.742	2	0.371	2.417
Treatment x Grade	0.341	2	0.171	1.110
Within	9.352	61	0.153	
Total	10.784	66		

Table 64--Additional Grade 3-6 Analyses

Grade 3+4 Word Study Skills

Source	SS'	df	MS'	F
Treatment	0.668	1	0.668	4.997 (p<.05)
Grade	1.585	1	1.585	11.853 (p<.005)
Treatment x Grade	0.075	1	0.075	0.561
Within	5.748	43	0.134	
Total	8.076	46		

Grade 3 Science and Social Studies

Source	SS'	df	MS'	F
Treatment	0.0001	1	0.0001	0.000
Within	7.2868	21	0.3470	
Total	7.2869	22		

Grade 6 Science

Source	SS'	df	MS'	F
Treatment	0.1324	1	0.1324	1.001
Within	2.9101	22	0.1323	
Total	3.0425	23		

Grade 6 Social Studies

Source	SS'	df	MS'	F
Treatment	1.7611	1	1.7611	13.249 (p<.005)
Within	2.9243	22	0.1329	
Total	4.6854	23		

Appendix F

Table 65--Grade 1-3 Teacher Attitudes

Opinionnaire on Education (Total Scores)

Source	SS'	df	MS'	F
Treatment	361.00	1	361.00	2.788
Grade	622.00	2	311.00	2.402
Treatment x Grade	517.00	2	258.50	1.996
Within	8,288.00	64	129.50	
Total	9,788.00	69		

Glasser Philosophy (Total Scores)

Source	SS'	df	MS'	F
Treatment	207.125	1	207.125	5.573 ($p<.025$)
Grade	63.250	2	31.625	0.851
Treatment x Grade	70.500	2	35.250	0.948
Within	2,378.625	64	37.166	
Total	2,719.500	69		

Satisfaction with Teaching (Total Scores)

Source	SS'	df	MS'	F
Treatment	29.750	1	29.750	1.611
Grade	0.750	2	0.375	0.020
Treatment x Grade	51.438	2	25.719	1.393
Within	1,181.750	64	18.465	
Total	1,263.688	69		

Table 65--Grade 1-3 Teacher Attitudes (cont'd)

Opinionnaire on Education
(Factor I--Child-Centeredness)

Source	SS'	df	MS'	F
Treatment	1.500	1	1.500	0.033
Grade	326.937	2	163.469	3.596 (p<.025)
Treatment x Grade	152.688	2	76.344	1.679
Within	2,909.688	64	45.464	
Total	3,390.813	69		

Opinionnaire on Education
(Factor II--Rigidity)

Source	SS'	df	MS'	F
Treatment	325.062	1	325.062	6.456 (p<.025)
Grade	49.250	2	24.625	0.489
Treatment x Grade	220.000	2	110.000	2.185
Within	3,222,438	64	50.351	
Total	3,816.750	69		

Glasser Philosophy
(Factor I--Involvement)

Source	SS'	df	MS'	F
Treatment	6.937	1	6.937	1.251
Grade	21.750	2	10.875	1.962
Treatment x Grade	15.000	2	7.500	1.353
Within	354.813	64	5.544	
Total	398.500	69		

Table 65--Grade 1-3 Teacher Attitudes (cont'd)

Glasser Philosophy
(Factor II--Traditionalism)

Source	SS'	df	MS'	F
Treatment	136.761	1	136.761	5.749 (p<.025)
Grade	16.160	2	8.080	0.340
Treatment x Grade	36.179	2	18.090	0.760
Within	1,522.430	64	23.788	
Total	1,711.530	69		

Table 66--Grade 4-6 Teacher Attitudes

Opinionnaire on Education (Total Scores)

Source	SS'	df	MS'	F
Treatment	758.00	1	758.000	7.463 (p<.025)
Grade	123.00	2	61.500	0.606
Treatment x Grade	181.00	2	90.500	0.891
Within	5,383.00	53	101.566	
Total	6,445.00	58		

Glasser Philosophy (Total Scores)

Source	SS'	df	MS'	F
Treatment	170.875	1	170.875	6.093 (p<.025)
Grade	4.000	2	2.000	0.071
Treatment x Grade	31.625	2	15.813	0.564
Within	1,486.313	53	28.044	
Total	1,692.813	58		

Table 66--Grade 4-6 Teacher Attitudes (cont'd)

Satisfaction with Teaching (Total Scores)

Source	SS'	df	MS'	F
Treatment	73.125	1	73.125	5.186 (p<.025)
Grade	14.000	2	7.000	0.496
Treatment x Grade	35.375	2	17.688	1.254
Within	747.375	53	14.101	
Total	869.875	58		

Opinionnaire on Education
(Factor I--Child-Centeredness)

Source	SS'	df	MS'	F
Treatment	256.500	1	256.500	6.480 (p<.025)
Grade	120.562	2	60.281	1.523
Treatment x Grade	21.875	2	10.938	0.276
Within	2,097.813	53	39.581	
Total	2,496.750	58		

Opinionnaire on Education
(Factor II--Rigidity)

Source	SS'	df	MS	F
Treatment	118.812	1	118.812	3.029
Grade	0.062	2	0.031	0.001
Treatment x Grade	91.875	2	45.938	1.171
Within	2,078.688	53	39.221	
Total	2,289.437	58		

Table 66--Grade 4-6 Teacher Attitudes (cont'd)

Glasser Philosophy
(Factor I--Involvement)

Source	SS'	df	MS'	F
Treatment	53.840	1	53.840	6.818 (p<.025)
Grade	2.996	2	1.498	0.190
Treatment x Grade	14.594	2	7.297	0.924
Within	418.539	53	7.897	
Total	489.969	58		

Glasser Philosophy
(Factor II--Traditionalism)

Source	SS'	df	MS'	F
Treatment	36.492	1	36.492	1.985
Grade	1.504	2	0.752	0.041
Treatment x Grade	45.820	2	22.910	1.246
Within	974.246	53	18.382	
Total	1,058.062	58		

Appendix G

Table 67--Primary Classroom Interactions

Acceptance of Feelings--ECS (1)

Source	SS'	df	MS'	F
Treatment	2.666	1	2.666	1.959
Grade	0.359	2	0.180	0.132
Treatment x Grade	2.439	2	1.220	0.897
Within	39.453	29	1.360	
Total	44.917	34		

Praise--ECS (2)

Source	SS'	df	MS'	F
Treatment	37.749	1	37.749	2.092
Grade	1.285	2	0.642	0.036
Treatment x Grade	10.084	2	5.042	0.279
Within	523.254	29	18.043	
Total	572.372	34		

Acceptance of Ideas--ECS (3)

Source	SS'	df	MS'	F
Treatment	75.359	1	75.359	5.745 ($p<.025$)
Grade	8.906	2	4.453	0.339
Treatment x Grade	1.832	2	0.916	0.070
Within	380.434	29	13.118	
Total	466.531	34		

Table 67--Primary Classroom Interactions (cont'd)

Criticism--ECS (7)

Source	SS'	df	MS'	F
Treatment	8.145	1	8.145	1.338
Grade	2.087	2	1.043	0.171
Treatment x Grade	7.761	2	3.881	0.637
Within	176.584	29	6.089	
Total	194.577	34		

Praise With No Criteria--ECS (2w)

Source	SS'	df	MS'	F
Treatment	6.850	1	6.856	0.358
Grade	14.343	2	7.172	0.374
Treatment x Grade	19.792	2	9.896	0.516
Within	555.929	29	19.170	
Total	596.920	34		

Praise With Public Criteria--ECS (2P)

Source	SS'	df	MS'	F
Treatment	12.278	1	12.278	10.261 (p<.005)
Grade	11.407	2	5.704	4.766 (p<.025)
Treatment x Grade	1.380	2	0.690	0.577
Within	34.701	29	1.197	
Total	59.766	34		

Table 67--Primary Classroom Interactions (cont'd)

Praise With Private Criteria--ECS (2p)

Source	SS'	df	MS'	F
Treatment	0.004	1	0.004	0.003
Grade	1.655	2	0.828	0.621
Treatment x Grade	9.246	2	4.623	3.470 (p<.05)
Within	38.638	29	1.332	
Total	49.543	34		

Teacher Talk--ECS (1+2+3...+7)

Source	SS'	df	MS'	F
Treatment	39.500	1	39.500	1.178
Grade	179.000	2	89.500	2.668
Treatment x Grade	349.625	2	174.813	5.211 (p<.025)
Within	972.813	29	33.545	
Total	1540.938	34		

Pupil Talk--ECS (8+9)

Source	SS'	df	MS'	F
Treatment	1.145	1	1.145	0.022
Grade	131.586	2	65.793	1.293
Treatment x Grade	342.024	2	171.012	3.360 (p<.05)
Within	1476.051	29	50.898	
Total	1950.806	34		

Table 68--Intermediate Classroom Interactions

Pupil Talk--ECS (8+9)

Source	SS'	df	MS'	F
Treatment	181.992	1	181.992	4.693 ($p<.05$)
Grade	11.129	2	5.565	0.144
Treatment x Grade	9.813	2	4.906	0.127
Within	1124.488	29	38.776	
Total	1327.422	34		

Appendix H

Table 69--Attitudes of Parents of Primary Pupils

Glasser Philosophy
(Factor I--Involvement)

Source	SS'	df	MS'	F
Treatment	5.359	1	5.359	3.420
Grade	3.105	2	1.553	0.991
Treatment x Grade	0.293	2	0.146	0.093
Within	83.063	53	1.567	
Total	91.820	58		

Glasser Philosophy
(Factor II--Traditionalism)

Source	SS'	df	MS'	F
Treatment	0.859	1	0.859	0.502
Grade	2.945	2	1.473	0.861
Treatment x Grade	3.613	2	1.807	1.056
Within	90.680	53	1.711	
Total	98.097	58		

Glasser Philosophy (Total Scores)

Source	SS'	df	MS'	F
Treatment	2.125		2.125	0.619
Grade	3.313	2	1.656	0.482
Treatment x Grade	5.750	2	2.875	0.837
Within	182.000	53	3.434	
Total	193.188	58		

Table 70--Attitudes of Parents of Intermediate Pupils

Glasser Philosophy
(Factor I--Involvement)

Source	SS'	df	MS'	F
Treatment	7.375	1	7.375	4.400 (p<.05)
Grade	1.801	2	0.900	0.537
Treatment x Grade	0.473	2	0.236	0.141
Within	88.844	53	1.676	
Total	98.493	58		

Glasser Philosophy
(Factor II--Traditionalism)

Source	SS'	df	MS'	F
Treatment	2.418	1	2.418	1.122
Grade	1.418	2	0.709	0.329
Treatment x Grade	11.047	2	5.523	2.562
Within	114.242	53	2.156	
Total	129.125	58		

Glasser Philosophy (Total Scores)

Source	SS'	df	MS'	F
Treatment	21.875	1	21.875	6.282 (p<.025)
Grade	4.625	2	2.313	0.664
Treatment x Grade	9.375	2	4.688	1.346
Within	184.563	53	3.482	
Total	220.438	58		

Appendix I

Table 71

Rotated Factor Solution for the "Faces" School Attitude Scale*

Item	Loadings of Items on Factors				
	I	II	III	IV	V
1	.24	.56	.09	.19	.19
2	.21	.29	.37	.03	.21
3	-.23	.17	.26	.50	.31
4	.34	.15	.42	.01	.13
5	.56	.13	.18	.01	.04
6	.03	-.06	.04	.59	.10
7	.09	.06	.70	.08	.03
8	.49	-.03	.28	-.10	.19
9	.18	.30	.23	.35	.08
10	.29	.14	.24	.04	.44
11	.11	.68	.18	.09	.06
12	.32	.06	.42	.32	.06
13	.15	.16	.26	.36	.23
14	.01	.75	.06	-.01	.08
15	.48	.24	.09	.20	.14
16	.06	.17	.69	.12	.06
17	.23	.06	.54	.10	.20
18	.25	.14	.15	.52	-.04
19	.10	.31	.62	.08	.02
20	.10	.08	.02	.15	.75
21	.27	.31	.26	.20	.19
22	.30	.26	.21	.39	.20
23	.20	.67	.23	.21	.13
24	.15	.39	-.07	.48	-.05
25	.62	.09	-.02	.27	.12
26	.09	.61	.32	.03	-.02
27	.08	.25	.53	.29	.14
28	.18	.10	.13	.07	.75
29	.13	.02	.33	.32	.31
30	.56	.21	.17	.24	.11

*In obtaining scores for pupils on the five factors, in all cases an item was included on the factor for which its loading was highest.

Appendix J

Table 72

Rotated Factor Solution for the Glasser Philosophy Questionnaire Using Teacher Responses*

Item	Loadings of Items on Factors	
	I	II
1	-.05	.53
2	-.17	.51
3	.16	.34
4	.42	.39
5	.21	.56
6	.57	.22
7	.20	.63
8	-.02	.67
9	.30	.59
10	.67	.23
11	.72	.09
12	.56	.15
13	.63	.05
14	.69	-.05
15	.70	.05

*In obtaining scores for teachers on the factors, for all but item 4 an item was included on the factor for which its loading was highest. Item 4 was placed in Factor II since its content resembled most that of Factor II items and since, in a Likert analysis, it was found to correlate more highly with scores on Factor II than with scores on Factor I.

Table 73

Rotated Factor Solution for the Glasser Philosophy Questionnaire Using Parent Responses*

Item	Loadings of Items on Factors	
	I	II
1	.01	.42
2	-.08	.35
3	.29	.23
4	-.10	.59
5	-.20	.61
6	.33	.28
7	.17	.66
8	.05	.72
9	.19	.58
10	.52	.05
11	.60	-.07
12	.53	-.03
13	.69	.00
14	.71	-.10
15	.65	-.03

*In obtaining scores for parents on the factors, for all but item 3 an item was included on the factor for which its loading was highest. Item 3 was placed in Factor II since its content resembled most that of Factor II and since, in a Likert analysis it was found to correlate more highly with scores on Factor II than with scores on Factor I.

Table 74

Rotated Factor Solution for the Opinionnaire on Attitudes Toward Education*

Item	Loadings of Items on Factors	
	I	II
1	.42	.10
2	.59	.06
3	.24	.36
4	.50	.08
5	.26	.50
6	.24	.25
7	.57	.05
8	.22	.33
9	.55	.06
10	-.12	.48
11	.31	.38
12	.12	.42
13	.47	.21
14	.45	.14
15	.15	.34
16	.39	.20
17	.12	.38
18	.50	.12
19	.18	.56
20	.03	.30
21	.23	.05
22	-.03	.32
23	.33	.21
24	.30	.15
25	.19	.35
26	.45	.03
27	.05	.47
28	.24	.45
29	.52	.14
30	.15	.16
31	.29	.37
32	.13	.09
33	-.10	.50
34	.43	.07
35	.61	.12
36	.30	.53
37	.44	.18
38	.12	.41
39	.22	.41
40	.21	.42
41	.44	.06
42	.25	.59
43	.55	.17
44	.15	.51
45	.30	-.01
46	.43	.19
47	.02	.63
48	.44	.17
49	.10	.52
50	.61	.18

*In obtaining scores for teachers on the two factors, in all cases an item was included on the factor for which its loading was higher.